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POORER THAN THEIR PARENTS? FLAT OR FALLING INCOMES IN ADVANCED ECONOMIES

JULY 2016

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MGI is led by Jacques Bughin, James Manyika, and Jonathan Woetzel, and chaired by Eric Labaye—all four are McKinsey & Company senior partners. Michael Chui, Susan Lund, Anu Madgavkar, and Jaana Remes serve as MGI partners. Project teams are led by the MGI partners and a group of senior fellows, and include consultants from McKinsey offices around the world. These teams draw on McKinsey's global network of partners and industry and management experts. Input is provided by the members of the MGI Council, who co-lead projects and provide guidance: Andres Cadena, Richard Dobbs, Katy George, Rajat Gupta, Eric Hazan, Acha Leke, Scott Nyquist, Gary Pinkus, Shirish Sankhe, Oliver Tonby, and Eckart Windhagen. In addition, leading economists, including Nobel laureates, act as research advisers.

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POORER THAN THEIR PARENTS? FLAT OR FALLING INCOMES IN ADVANCED ECONOMIES

JULY 2016

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PREFACE

The rise of income inequality in advanced economies has generated serious debate and academic research, with much of the recent attention focused on the increasing concentration of wealth in the richest segments of the population. In this report, the McKinsey Global Institute has approached the issue of inequality from a different perspective by examining the share of the population whose incomes have stopped advancing when compared to people in the past with similar incomes or demographic profiles. This is an aspect of inequality that has received relatively little attention, perhaps because prior to the 2008 financial crisis less than 2 percent of households in advanced economies were worse off than similar households in previous years. That has now changed: two-thirds of households in the United States and Western Europe were in segments of the income distribution whose real market incomes in 2014 were flat or had fallen compared with 2005.

In this research we set out to quantify the proportion of households in advanced economies with flat or falling incomes. We try to understand how much the recession and slow recovery since the financial crisis were the primary causes, and how much is attributable to other long-run forces. Finally, to help inform a debate, we catalog interventions that have been used around the world to address the problem and that could become part of a societal agenda to overcome the issue.

This research was led by Richard Dobbs, a McKinsey senior partner and a member of the MGI Council based in London, and Anu Madgavkar, an MGI partner based in Mumbai. MGI directors Jacques Bughin, James Manyika, and Jonathan Woetzel, and MGI chairman Eric Labaye guided and contributed to the research. We thank MGI partners Michael Chui and Jaana Remes and MGI senior fellow Jan Mischke for their insights. We also thank McKinsey senior partners Kalle Bengtsson, Heinz-Peter Elstrodt (emeritus), Vivian Hunt, Scott Nyquist, Gary Pinkus, Sven Smit, Kevin Sneader, and Leonardo Totaro for their contributions. The research team was led by Pranav Kashyap and Liesbeth Huisman, and comprised Olga Balusova, Abhisek Ghosh, Catherine Hart, Christy Lauridsen, Alexander Mansilya-Kruz, Aditi Ramdorai, and Ravindran Shanmugam. MGI senior editors Peter Gumbel and Geoffrey Lewis worked on this report, as did Matt Cooke, MGI director of external communications; Julie Philpot, editorial production manager; Marisa Carder, Jason Leder, and Patrick White, senior graphic designers, and Margo Shimasaki, graphic designer; and Richard Johnson and Mary Reddy, senior editors, data visualization. MGI and McKinsey colleagues Tim Beacom, Alan Fitzgerald, Shishir Gupta, Deadra Henderson, Jean Hocke, and Mekala Krishnan also contributed.

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This report contributes to MGI's mission to help business and policy leaders understand the forces transforming the global economy, identify strategic locations, and prepare for the next wave of growth. As with all MGI research, this work is independent and has not been commissioned or sponsored in any way by any business, government, or other institution. While we are grateful for all the input we have received, the report is ours, including any errors. We welcome your comments on this research at **MGI@mckinsey.com**.

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IN BRIEF

POORER THAN THEIR PARENTS? FLAT OR FALLING INCOMES IN ADVANCED ECONOMIES

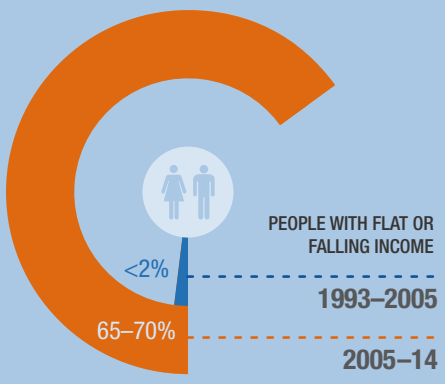
The debate over rising inequality in advanced economies has focused on income and wealth gains going disproportionately to top earners. In this research, we look at an aspect that has received less attention: households in developed economies whose incomes have not advanced when compared to their peers in the past. Examining this issue in three separate ways, we found a very substantial increase in the number of such households.

- Between 65 and 70 percent of households in 25 advanced economies, the equivalent of 540 million to 580 million people, were in segments of the income distribution whose real market incomes—their wages and income from capital—were flat or had fallen in 2014 compared with 2005. This compared with less than 2 percent, or fewer than ten million people, who experienced this phenomenon between 1993 and 2005. Government transfers and lower tax rates reduced the effect on disposable incomes: 20 to 25 percent of households were in segments of the income distribution whose disposable income was flat or down between 2005 and 2014, compared with less than 2 percent in 1993–2005.
- Today's younger generation is at risk of ending up poorer than their parents. Most population segments experienced flat or falling incomes in the 2002–12 decade but young, less-educated workers were hardest hit, according to our second analysis, which segmented income from France, Italy, and the United States by age and educational attainment. Today's younger generation is at risk of ending up poorer than their parents. The third way we looked at this issue was through a 2015 survey of British, French, and US citizens. It largely confirmed that perceptions were in line with the segment analysis. Almost two in five respondents felt their economic positions had deteriorated.
- Government policy and labor-market practices helped determine the extent of flat or falling incomes. In Sweden, for example, where the government intervened to preserve jobs, market incomes fell or were flat for only 20 percent, while disposable income advanced for almost everyone. In the United States, government taxes and transfers turned a decline in market incomes for 81 percent of income segments into an increase in disposable income for nearly all households.
- Flat or falling incomes for the majority of the population could reduce demand growth and increase the need for social spending. Social consequences are also possible; in our survey, nearly a third of those who felt they were not advancing thought that their children and the next generation would also advance more slowly in the future, and they expressed negative opinions about trade and immigration.
- The deep recession and slow recovery after the 2008 financial crisis were primary causes of this phenomenon, but labor-market shifts such as the falling wage share of GDP and long-term demographic trends of aging and shrinking household size also played a role. Before the recession, GDP growth contributed about 18 percentage points to median household income growth, on average, in the United States and Europe. In the seven years after the recession, that contribution fell to four percentage points, and even these gains were eroded by labor-market and demographic shifts.
- Longer-run demographic and labor trends will continue to weigh on income advancement. Even if economies resume their historical high-growth trajectory, we project that 30 to 40 percent of income segments may not experience market income gains in the next decade if labor-market shifts such as workplace automation accelerate. If the slow-growth conditions of 2005–12 persist, as much as 70 to 80 percent of income segments in advanced economies may experience flat or falling market incomes to 2025.
- Policy makers and business leaders both have a role to play in shaping the discussion and helping create solutions. We detail options to boost productivity, GDP growth, and employment; enable workers to find better-paying work; and support disposable incomes of middle- and low-income households.

FLAT OR FALLING

a new look at **INCOME INEQUALITY**

The population with **flat or falling incomes has surged** in advanced economies



65–70%

of households in advanced economies, on average, were in income segments whose incomes in 2014 were flat or down compared with 2005.[1]

MARKET INCOME

<10 MILLION
540M–580M

DISPOSABLE INCOME

<10 MILLION
170M–210M

Although the **global recession** was the most important factor, median household incomes were also affected by **long-run trends.**

AGGREGATE DEMAND
Slow or negative growth in output and employment

DEMOGRAPHIC CHANGES
Smaller households with fewer working-age adults

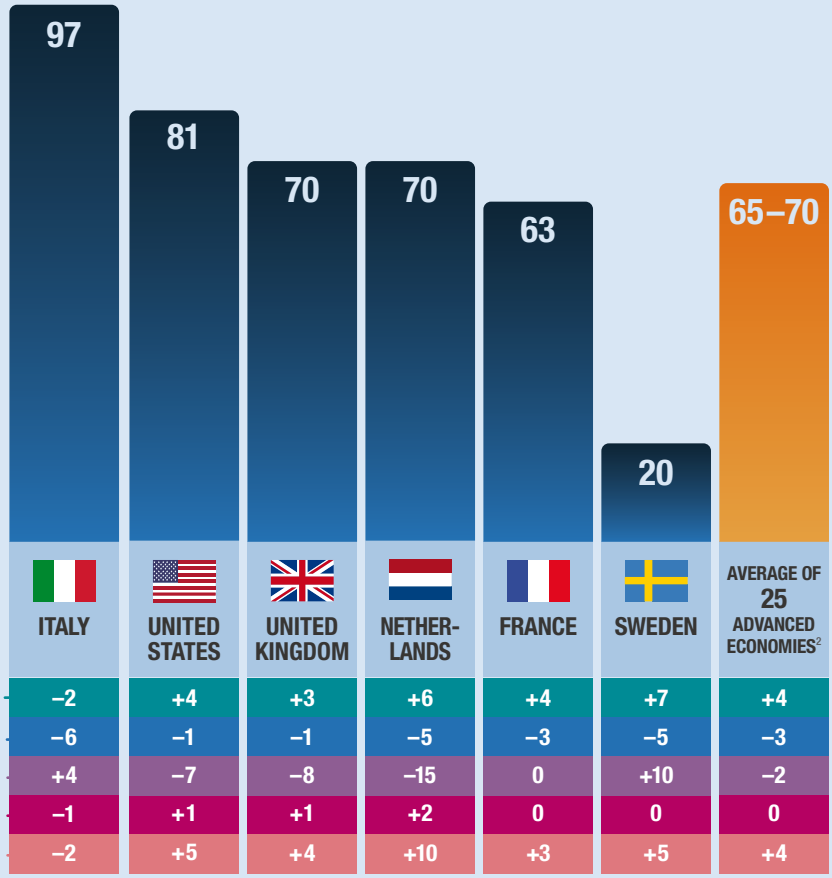
LABOR-MARKET SHIFTS
Lower share of GDP flowing to wages; weak demand for low- and medium-skill labor

CAPITAL INCOME
Lower investment returns and business income

TAXES AND TRANSFERS
Reduced taxes and increased transfers offset some of the losses in market income

Both the extent of flat or falling incomes and the forces driving the phenomenon **vary considerably among countries.**

% of population in groups with flat or falling market income, 2005–14[1]



IMPACT OF THESE FACTORS *Percentage points of change in disposable income, 2005–14*	ITALY	UNITED STATES	UNITED KINGDOM	NETHER-LANDS	FRANCE	SWEDEN	AVERAGE OF 25 ADVANCED ECONOMIES[2]
	–2	+4	+3	+6	+4	+7	+4
	–6	–1	–1	–5	–3	–5	–3
	+4	–7	–8	–15	0	+10	–2
	–1	+1	+1	+2	0	0	0
	–2	+5	+4	+10	+3	+5	+4

In a worst-case scenario, **70–80% of income groups** might not advance in the coming decade

WHAT CAN BE DONE?

ENABLE BUSINESSES TO GROW AND CREATE JOBS
Remove barriers to competition; enable private and public investment; encourage innovation

INCREASE OPPORTUNITIES TO IMPROVE EARNING POTENTIAL
Improve quality and job relevance of education; support labor mobility; raise labor participation

SECURE INCOMES
Adjust taxes, transfers, and labor policies; encourage business initiatives in profit-sharing and employee benefits

[1] 2014 or latest available data for market income (wages and income from capital); population measured in income deciles.
[2] Population-weighted average.
SOURCE: McKinsey Global Institute analysis

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EXECUTIVE SUMMARY

Most people growing up in advanced economies since World War II have been able to assume that they and their children will be better off than their parents and grandparents—and for most of the time, that assumption has been correct. Over the past 70 years, except for a brief hiatus in the 1970s, buoyant economic and employment growth has meant that all households, especially those of the baby boomer generation, experienced rising incomes, both before and after paying taxes and receiving government transfers such as unemployment or social security benefits.

65–70%
Households in income groups with flat or falling market incomes in 2005–14

That positive income trend came to an abrupt halt in the past decade. Our research shows that in 2014, between 65 and 70 percent of households in 25 advanced economies were in income segments whose real market incomes—from wages and capital—were flat or below where they had been in 2005.[1] This does not mean that individual households' wages necessarily went down but that households earned the same as or less than similar households had earned in 2005 on average. In the 12 preceding years, between 1993 and 2005, this flat or falling phenomenon was rare, with less than 2 percent of households not advancing. In absolute numbers, while fewer than ten million people were affected in the 1993–2005 period, that figure exploded to between 540 milllion and 580 million people in 2005–14. Taxes and transfers helped soften the blow, but disposable incomes were nonetheless flat or down in 20 to 25 percent of income segments on average.

The severe recession that followed the 2008 financial crisis and the slow-growth recovery since are a fundamental cause of this phenomenon, but we find that deep-rooted demographic and labor-market factors also played a role—and will likely continue doing so, even if economic growth accelerates. These factors include shrinking households, a smaller share of GDP going to wages, and increased automation in the workplace. Even in the 2005–14 period, market incomes in most of the countries we studied would have risen slightly had it not been for such changes. In this report, we detail the extent of the "flat or falling" phenomenon and the underlying factors, and outline some options for dealing with what is potentially a corrosive social and economic development.

THE GROWING PHENOMENON OF FLAT OR FALLING INCOMES IN ADVANCED ECONOMIES

There are several ways of thinking about income inequality and its implications. The most commonly used approach in recent years has been to look at the rising gap between the wealthiest segments of the population and those in the middle or lower end of the scale. This, for example, has been a focus of French economist Thomas Piketty, whose best-selling 2014 book about the concentration of wealth going to top earners sparked broad public discussion.[2] Another frequently used approach to inequality is to focus on the

1 The 25 advanced economies are Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland, the United Kingdom, and the United States. The choice of these countries was determined by our methodology, as outlined in the technical appendix.

2 Thomas Piketty, *Capital in the twenty-first century*, Belknap Press, 2014. Other works that have examined this aspect include Philippe Aghion et al., *Innovation and top income inequality*, CEPR discussion paper number 10659, June 2015; Anthony Atkinson, *Inequality: What can be done?* Harvard University Press, 2015; David Autor, "Skills, education, and the rise of earnings inequality among the 'other 99 percent,'" *Science*, volume 344, issue 6186, May 2014; François Bourguignon, *The globalization of inequality*, Princeton University Press, 2015; Brian Keeley, *Income inequality: The gap between rich and poor,* OECD, December 2015; Branko Milanovic, *Global inequality: A new approach for the age of globalization*, Harvard University Press, 2016; José Gabriel Palma, "Homogeneous middles vs. heterogeneous tails, and the end of the 'Inverted-U': The share of the rich is what it's all about," *Development and Change*, volume 42, number 1, January 2011; Joseph E. Stiglitz, *The price of inequality: How today's divided society endangers our future*, W. W. Norton, 2012.

poor, those with insufficient income to provide for their basic needs, often calculated as a percentage of the median income.

Our research looks at a third aspect, which has not been as widely studied or documented: the very rapid growth in the proportion of income segments in advanced economies whose earnings both before and after taxes and transfers have been flat or falling. This goes beyond the degree of inequality measured in the standard Gini index by providing a detailed view of the trajectory of all income segments, which can be lost in a consolidated index. We focus on income rather than on wealth or consumption, and we also look at the evolution of incomes over time, rather than at a fixed point.

In our research, we used three approaches to size this flat or falling phenomenon. The first analyzed changes by income segments, or households divided into deciles (tenths), quintiles (fifths), and even percentiles (one-hundredths) depending on where they rank in the national income distribution.[3] We examined income segments in six advanced economies (France, Italy, the Netherlands, Sweden, the United Kingdom, and the United States) to determine how they have fared over the past two decades.[4] We then scaled up the findings to include 19 other advanced economies with similar growth rates and income distribution patterns, for a total of 25 countries with a combined population of about 800 million that account for just over 50 percent of global GDP.[5] Our second approach was an analysis of a detailed data set for 350,000 people in the three countries with microdata available—France, Italy, and the United States. For these countries we examined income by age bracket and educational attainment. Finally, we sought to understand perceptions through conducting detailed surveys of more than 6,000 people in France, the United Kingdom, and the United States that tested how people felt about the evolution of their income.

We did not conduct a longitudinal study to examine intergenerational changes in income level or social mobility. The numbers of people or households that we report are thus based on income or population segments rather than on individuals. Nonetheless, the overall trend is striking, given the hundreds of millions of people in segments with flat or falling income. Full details of our methodology are to be found in the technical appendix at the end of this report.

A total of 65 to 70 percent of income segments in advanced economies experienced flat or falling market incomes in 2005–14

Since 2005, household incomes across advanced economies have stagnated or fallen for most income segments. This is based on an analysis of income segment data from national agencies in the six countries we looked at in detail, a total of 487,000 households. On average, 65 to 70 percent of the population were in income deciles (10-percent slices of the population) whose real market incomes in 2014 fell compared with 2005.[6] In our six focus countries alone, more than 400 million people were in income segments with flat or falling market incomes. When scaled up to the 25 countries in our sample, this translates into

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3 In this report, "high-income" households refers to those in the top two deciles, or top quintile, of income distribution, and "middle-income" segments refers to the fifth and sixth deciles, or third quintile, of income distribution. Where we refer to "low- and middle-income" households, we mean people in deciles one through six, or the first three quintiles, that is to say, the bottom 60 percent of households in income distribution.

4 Our choice of countries was determined by the public availability of detailed data.

5 We do not include other advanced economies such as Japan and South Korea, primarily because of the lack of available comparative data. Our main scaling methodology is to group all countries into six categories, based on similarities in GDP growth rates and shifts in income inequality between the two periods, which we measure using Gini coefficients. Throughout this report, we use real, or inflation adjusted, figures for incomes. We use the OECD consumer price index numbers across all deciles to gauge inflation. For further details see the technical appendix.

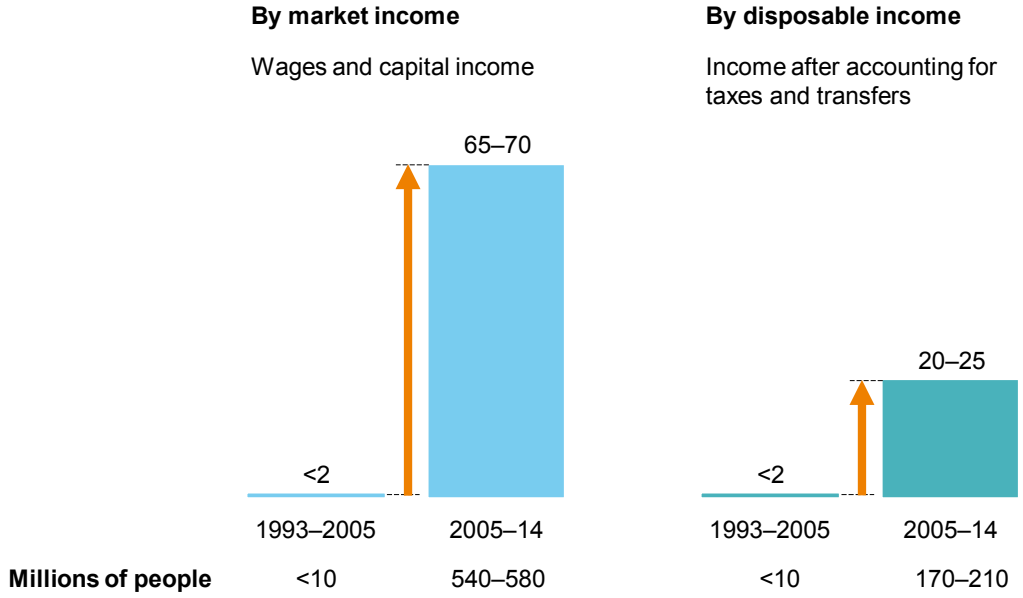
6 End dates for our income segment analysis are dependent on the most recent data available for each country: France (2012), Italy (2012), the Netherlands (2014), Sweden (2013), the United Kingdom (2014), and the United States (2013). For the sake of convenience we describe the two periods in this report as 1993–2005 and 2005–14. To account for the different end dates among countries and make the data comparable, we have standardized the time frame for all.

540 million to 580 million people. By comparison, in the 12 previous years, between 1993 and 2005, less than 2 percent of the population, or fewer than ten million people, were in income segments whose average market incomes were flat or down (Exhibit E1).

Exhibit E1

The percentage of households in income segments with flat or falling incomes exploded in the past decade

Share of households with flat or falling incomes[1]
%



1 Population-weighted average of 25 countries extrapolated from six country deep dives; for each country we use the latest year the data are available—France (2012), Italy (2012 market incomes, 2014 disposable incomes), the Netherlands (2014), Sweden (2013), United Kingdom (2014), and United States (2013). The base year for France is 1996 and for Sweden is 1995.

SOURCE: McKinsey Global Institute analysis

The impact was smaller when measured in disposable income. But even after accounting for higher net transfers to households because of the recession, disposable incomes on average were flat or down in 20 to 25 percent of income segments.

The distribution of flat or falling incomes varies across the six economies we studied in depth. At one extreme is Italy, which experienced a severe economic contraction in the recession after the 2008 financial crisis and has had a very weak recovery since. There, real market incomes were flat or falling for virtually the entire population. At the other extreme is Sweden, where only 20 percent of the population had flat or falling market incomes. In each of the four other focus countries—France, the Netherlands, the United Kingdom, and the United States—the proportion of segments whose market incomes did not advance was in the 60 to 80 percent range.

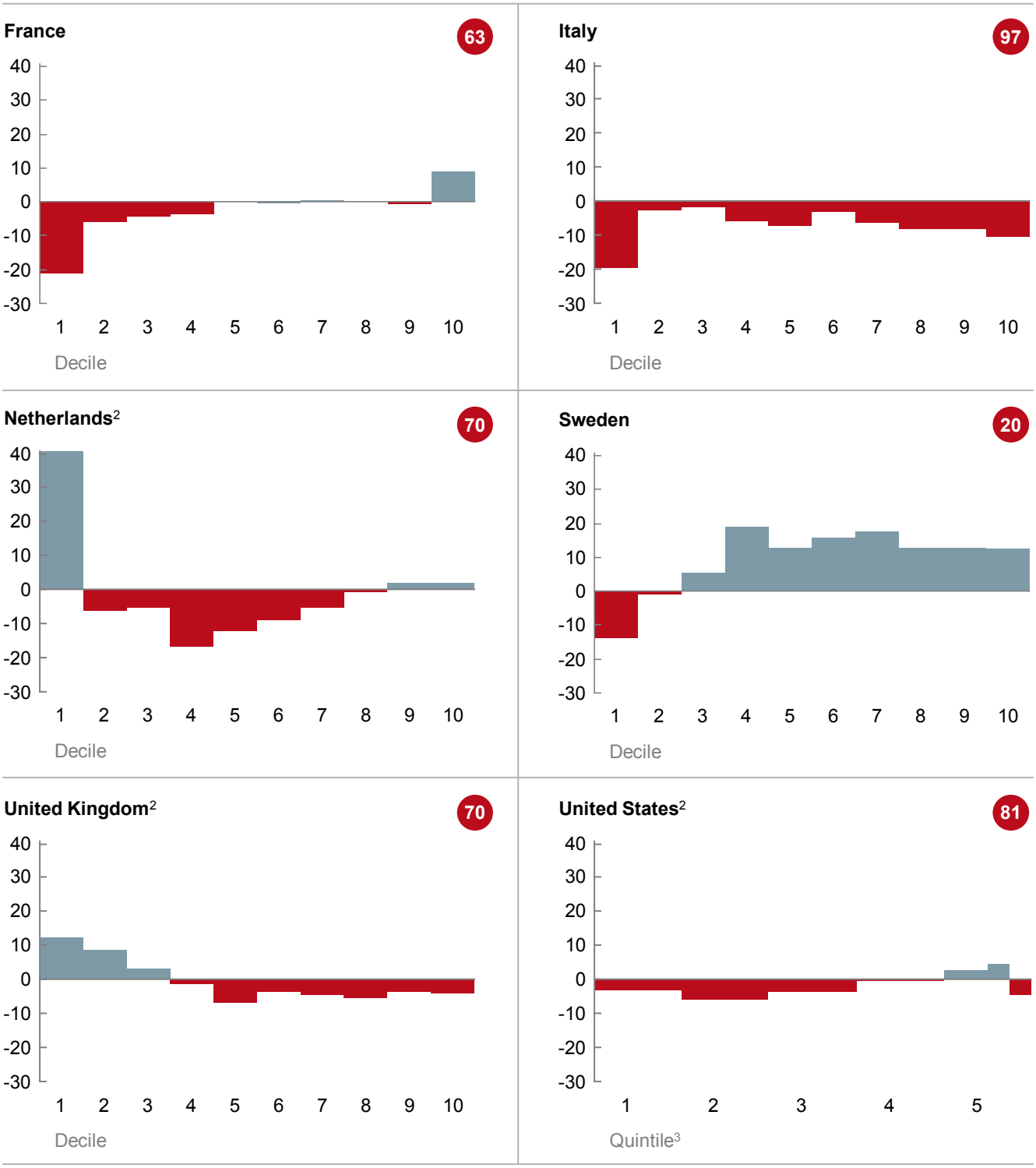
The variation was greater at the level of disposable income. The share of income segments whose disposable income did not advance between 2005 and 2014 ranged from 100 percent in Italy to 10 percent in France and less than 2 percent in Sweden and the United States. These variations reflect differences in policy approaches; labor institutions such as the strength of unions and their role, or services for the unemployed; and widely varying national economic, fiscal, and monetary policy responses to the recession. Exhibit E2 shows how income segments in each of our six focus countries fared during the 2005–14 period.

Exhibit E2

How income groups in our six focus countries fared before taxes and transfers

Real household market income change, 2005–14[1]
%

Rising market income
Falling market income
% of households with falling market income



1 Growth numbers are standardized to make both periods comparable for all countries. For each country we use the latest year the data are available—France (2012), Italy (2012), the Netherlands (2014), Sweden (2013), United Kingdom (2014), and United States (2013).
2 Data show that the increase in the bottom decile incomes in the Netherlands is driven by increase in self-employment income, while in the United Kingdom, the bottom three deciles saw gains in both self-employment and wage income. In the United States, the decrease in the incomes of the top 5% is driven by a decrease in capital income for the top 1% from 2005 to 2013 based on available CBO data.
3 US income is available only in quintiles except for the top quintile which is broken up into the 81st to 90th, 91st to 95th, 95th to 99th and top 1 percentiles.

SOURCE: Institut national de la statistique et des études économiques (INSEE); Bank of Italy; Centraal Bureau voor de Statistiek (CBS); Statistics Sweden; UK Office for National Statistics (ONS); US Congressional Budget Office (CBO); McKinsey Global Institute analysis

Analysis by demographic segments highlights the disproportionate impact on the young and less educated

The trend of flat or falling incomes was confirmed by our second analysis of age- and education-based population segments. The data on 350,000 individuals from France, Italy, and the United States that we used tracked incomes of demographic segments based on three age brackets (younger than 30, 30–45, and older than 45) and three levels of educational attainment—low, medium, and high, based on whether a person received less than a high school diploma, a high school diploma, or a bachelor's degree or above.

20x
as many single mothers in the United States were in the lowest-income households as in the highest-income ones

This second set of data confirmed our sizing results from the first analysis by income segments. We found that income from wages fell for all population segments between 2002 and 2012, regardless of age or level of education.

In all three countries, less-educated workers, and especially younger ones, have been most affected. Moreover, the recession and weak recovery in some of the countries have led to persistently high levels of youth unemployment, preventing young people across advanced economies from launching careers. These are the people who are literally at risk of growing up poorer than their parents.

Women are also overrepresented in lower income deciles. Single mothers were more likely to be in segments that were not advancing, although there is a variance among countries. In the United States, 20 times as many single mothers were in the lowest-income decile as in the highest. In Italy, there were eight times as many single mothers in the lowest income households as in the highest-income households. For France this number was 11 times. Our microdata for the United States show that single-mother households not only earn less than the average household, but their real household income also declined nearly one percentage point faster than all other households in the decade from 2003 to 2013.

Our survey of citizen sentiment in three countries confirmed widespread concerns about current and future income trends

The citizen surveys we conducted in 2015 in France, the United Kingdom, and the United States show that perceptions are in line with the findings of our analysis of income and population segments. We sought to gauge whether people perceived a decline in their income. We asked them to respond to statements about their financial position today, whether it had improved, and how it compared with that of friends and neighbors. We also asked about the future, what they expected their financial position to be in five years' time, and whether they thought they were worse or better off than their parents at the same age.

The answers varied by country but overall there was an even split, with 30 to 40 percent saying their incomes were not advancing, and the same proportion saying their incomes had advanced. The remaining 20 to 30 percent were neutral and did not feel strongly either way about their incomes. The 30 to 40 percent who felt they were not advancing held more pessimistic views about their futures and the futures of their children than those who felt they were advancing. Nearly half of those not advancing expected not to advance in the future, compared with just one-quarter of those who felt they were advancing. Those who felt they were not advancing fell into one of two camps: the two-thirds who believed that things would improve for their children and the next generation, and the remaining one-third who saw slow income growth as a persistent problem that would continue to affect their children. As we shall see, expectations of future income advancement often colored people's views of the world.

The flat or falling phenomenon could have corrosive economic and social implications

Over time, declining earning power for large swaths of the population could limit demand growth in economies and increase the need for social spending and transfer payments, even as tax receipts from workers with stagnating incomes limit capacity to fund such programs.[7] The impact could be more than purely economic, however, if the disconnect between GDP growth and income growth persists.

The impact of flat or falling incomes could be more than purely economic if the disconnect between GDP growth and income growth persists.

30–40%
of survey respondents said their incomes were not advancing

The survey provided an indication of the potentially corrosive social and economic consequences of flat or falling incomes. Along with questions about income trends, we asked about people's views on trade and immigration. The citizens who held the most negative views on both were the same group who felt their incomes were not advancing and did not expect the situation to improve for the next generation. More than half of this group agreed with the statement, "The influx of foreign goods and services is leading to domestic job losses," compared with 29 percent of those who were advancing or neutral. They were also twice as likely to agree with the statement, "Legal immigrants are ruining the culture and cohesiveness in our society," compared to those advancing or neutral. Our survey also found that those who were not advancing and not hopeful about the future were more likely than those who were advancing to support nationalist political parties such as France's National Front or, in the United Kingdom, to support the move to leave the European Union.

WHY INCOMES STOPPED RISING

The recession that followed the 2008 financial crisis was one of the deepest and longest-lasting downturns of the post-World War II era, and the recovery that followed it has been unusually sluggish in many advanced economies, especially in Western Europe. The downturn was the single biggest factor affecting incomes in the 2005–14 period. However, it was not the only cause. Longer-term demographic and labor-market developments in each of the countries we examined also played a role in the flat or falling income trend and will continue to do so.

To understand how these different forces played out, we analyzed the patterns of median market and median disposable incomes for two periods: 1993 to 2005 and 2005 to 2014.[8] We focus on income changes of the median income household because middle-income households are representative of the overall flat or falling income trend in most countries, with the singular exception of Sweden.

[7] Wealthier households have a lower marginal propensity to consume. For a discussion of this phenomenon and its effect on growth, see *A window of opportunity for Europe*, McKinsey Global Institute, June 2015.

[8] In our analyses of factors causing flat or falling incomes, we standardize the growth rate from 1993 to 2005 and 2005 to 2014 in order to make them comparable. For details, see the technical appendix.

Five factors underlie the changes in median incomes that we observe in our focus countries:

- **Aggregate demand factors.** When aggregate demand (or GDP) grows, employment, and labor-force participation also increase, enabling incomes to rise. Conversely, lower labor-force participation rates, rising unemployment, and waning productivity (output per worker) can all lead to stagnating or falling incomes. Unemployment in particular can have a dampening effect on household income.

- **Demographic factors.** These capture changes in the number of working-age people in each household. This number has fallen in several of our focus countries because of the shrinking size of households, the result of changing family structures and lower fertility rates, and aging, which decreases the number of people available to work.

- **Labor-market factors.** These include the evolving pattern in labor demand and supply. This is manifested in the wage share of GDP and the median household's share of wages. Among the forces that can explain movements in these two factors are income gains for high-skill workers and negligible income gains or declines for low- and medium-skill workers, and the share of part-time and temporary work, which is often less well paid proportionately than permanent or full-time work. Labor-market factors can vary depending on the role and influence of unions, different national labor regulations and practices, trade and immigration, and the degree to which jobs are affected by automation.

- **Capital income factors.** These include capital gains from asset sales, interest and dividends from investments, rental income, income from business, or income received from private pension plans.

- **Tax and transfer factors.** Transfers include a range of cash payments to beneficiaries such as social security payments, disability or workers' compensation, and unemployment benefits.[9]

The first three of these categories—aggregate demand, demographic, and labor-market factors—contribute to changes in labor income. Changes in market income are driven by changes in this labor income, together with changes in capital income. Disposable income is the amount households receive after taxes, and transfers are applied to market income. Exhibit E3 shows how each of these factors played a role in the 2005–14 period, and the difference with the previous 1993 to 2005 period, by country.

Let us now explore each of these in turn.

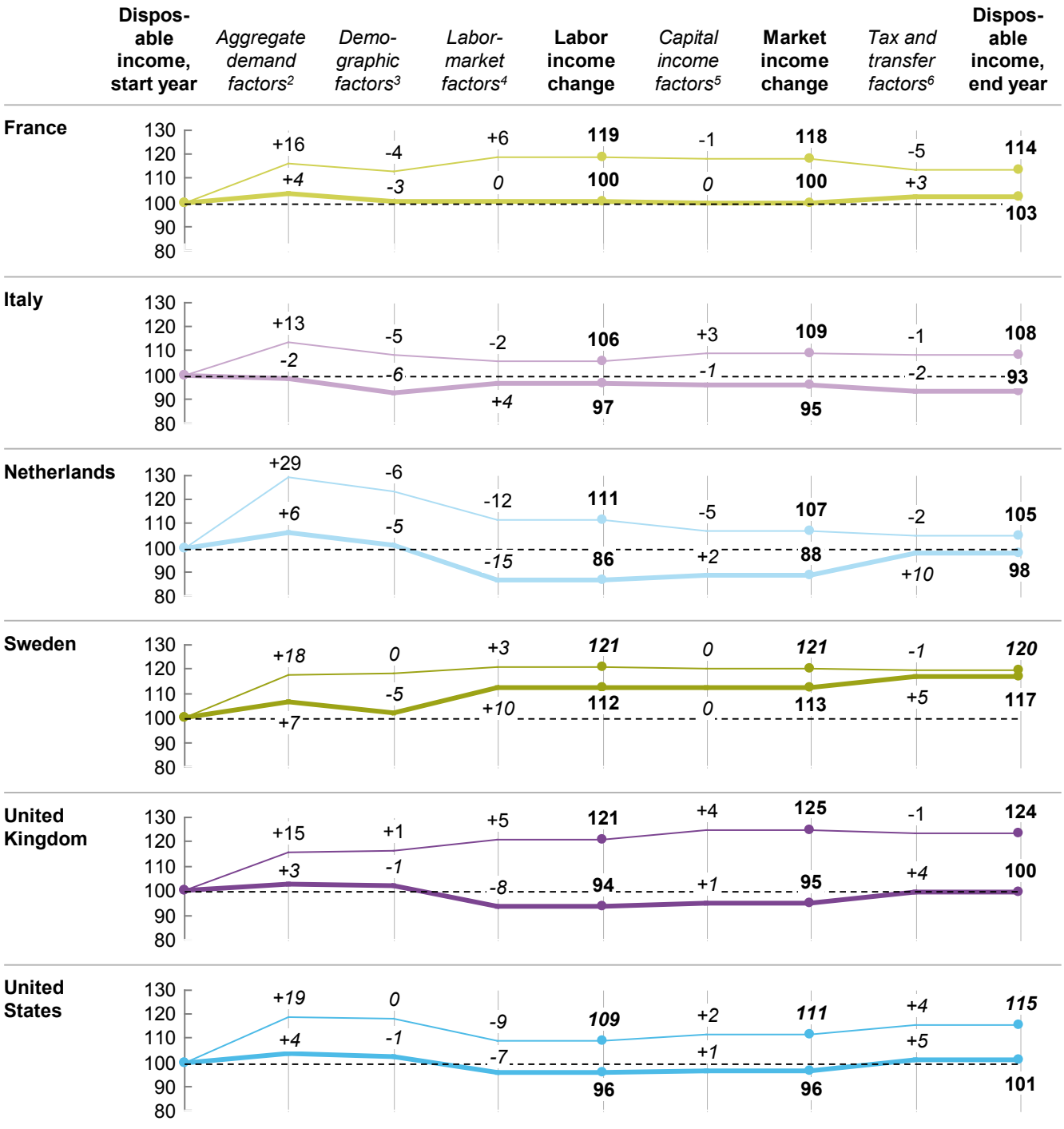
[9] In-kind transfers such as the Supplemental Nutrition Assistance Program, Medicare, and Medicaid are counted for the United States but not for the other five countries due to lack of data on in-kind transfers by decile.

Exhibit E3

Five factors determine changes in disposable income

Change in disposable income for middle-income households, 1993–2005 and 2005–14[1]
%

1993–2005
2005–14
Bold text = Total
Italic text = Change



1 Middle-income, or median, households are households in the middle (3rd) quintile or the 5th and 6th decile or the 40th to the 59th percentile. For each country we use the latest data available—France (2012), Italy (2012), the Netherlands (2014), Sweden (2013), United Kingdom (2014), and United States (2013). The base year for France is 1996 and for Sweden is 1995. All growth numbers are standardized to make results comparable.
2 Change in aggregate output, measured by output per employed worker, multiplied by change in number of employed workers in the working-age population.
3 Change in number of working-age people per household.
4 Change in wage share of GDP, adjusted for difference between consumer price inflation and inflation of overall output, and median household share of wages.
5 Includes profit from own business, income from capital, and other sources of market incomes that cannot be classified as income from labor.
6 Includes income from private and public pension transfers, other transfers such as social security benefits, and taxes on labor income and capital income.
NOTE: Numbers may not sum due to rounding.

SOURCE: INSEE; Bank of Italy; CBS; Statistics Sweden; ONS; CBO; McKinsey Global Institute analysis

The recession and subsequent slow recovery sharply reduced the effect of aggregate demand on market incomes

After the global financial crisis in 2008, GDP contracted in each of the economies we studied in depth, raising unemployment rates sharply and reducing median incomes. Labor productivity growth, which was already slowing in the 2000–07 period, has slowed even further since the crisis. In the 12-year period before the recession that is our baseline (1993 to 2005), growth in aggregate demand contributed 19 percentage points to median disposable income growth in the United States and 17 points, on average, in the five European countries we focused on. In 2005 to 2014, which included the recession and its aftermath, that figure plunged to just four percentage points in the United States and in Europe.

On average, **18** percentage points of growth in median disposable incomes in 1993–2005 came from aggregate demand

The recession in the United States was severe but relatively short-lived: GDP dropped by 3.4 percent from peak to trough from 2008 to 2009, and growth was negative for five quarters, ending in late 2009. Unemployment doubled from less than 5 percent to nearly 10 percent between 2007 and 2010. Europe overall suffered a "double-dip" recession, when growth stalled in 2012 during the Eurozone's sovereign debt crisis. Italy suffered a "quadruple-dip" recession with growth stalled or falling almost continuously from 2007 through 2015; over that period, GDP contracted by 12.2 percent. Unemployment rates in Europe rose at an accelerated pace after the second dip, doubling from less than 4 percent in the Netherlands in 2008 to nearly 8 percent in 2014. In France, unemployment reached its highest level since the crisis—10.8 percent—in the third quarter of 2015. Italy's unemployment rate peaked at 12.9 percent in the third quarter of 2014.

The recovery has been slow and uneven across countries. At the end of 2015, seven years after the recession began, per capita GDP had not returned to pre-recession levels in Italy and the Netherlands, though it had recovered in the other four countries. The US economy has recovered faster than the other five, with GDP per capita rising 1.3 percent per year between 2009 and 2015. This compares with 0.9 percent across the European Union (EU). However, even as US GDP per capita growth rebounded and the US unemployment rate returned to the pre-crisis level in 2015, median market incomes remained flat between 2011 and 2014. The United Kingdom suffered a double-dip recession, but employment has returned to the pre-recession level.

Slow productivity growth in turn has raised questions about the link between productivity and inequality.[10] While the largest change from the 1993–2005 period was the lower levels of aggregate demand growth, that alone was not enough to depress incomes and determine which income segments bore the pain to a greater or lesser degree.[11] Indeed, aggregate growth remained positive for all countries except Italy, and yet most income segments had flat or falling incomes. That was because two other long-run factors also weighed heavily on income advancement.

Long-term demographic factors are limiting growth in household income, especially in Europe

The shrinking household size and the decline in the number of working-age adults per household affect income in two ways: by reducing the pool of income that is earned by household members, and by limiting the economies of scale that can be gained from sharing resources.

Households are shrinking as a result of changing family structures and lower fertility rates, and the number of working-age adults per household is also changing, in part because of aging. These two long-run demographic factors have had a significant influence on

[10] See, for example, *The productivity-inclusiveness nexus*, OECD, June 2016.
[11] Ibid.

household incomes in the past two decades, especially in Europe, and will continue to do so. The number of working-age adults per household fell in both the 1993–2005 and 2005–14 periods across the five European economies we analyzed, reducing income by the equivalent of four percentage points in both periods. The drop in household size was greatest in Italy, where there were 21 fewer working-age people per hundred households in 2012 than in 2002.[12] In the United States, by comparison, the number of working-age people per hundred households dropped on average between 2002 and 2012 by just two. However, in the United States, the bottom quintile of households has on average 50 fewer working-age people in every hundred households than the richest quintile.[13]

Labor-market factors have depressed wage growth for middle- and low-skill workers

Two labor-market factors contributed to flat or falling incomes and have been particularly pronounced in the United States, as well as the Netherlands and the United Kingdom.

5%
average decline in wage share as a percentage of GDP in our 6 countries

First is the share of national income that is paid to workers, the so-called wage share.[14] Specifically, we look at wages and salaries paid to workers, rather than all compensation to employees, to remove the effects of non-wage labor costs such as employer pensions and National Insurance contributions in the United Kingdom.[15] From 1970 to 2014, with the exception of a spike during the 1973–74 oil crisis, the average wage share fell by 5 percent on an indexed basis in the six countries we studied in depth, and in the most extreme case, the United Kingdom, by 13 percent. The decline in wage share has taken place despite rising productivity, suggesting a disconnect between productivity and incomes. The wage-share decline is due in part to the growth of corporate profits as a share of national income, as a result of rising capital returns to technology investments, lower returns to labor from increased trade, rising rent incomes from home ownership, and increased depreciation on capital.[16] Indeed, profits for North American and Western European corporations in the past three decades have been exceptional, with after-tax operating profits rising to 9.8 percent of global GDP in 2013 from 7.6 percent in 1980, an increase of nearly 30 percent. Between 2010 and 2014, after-tax profits of US firms measured as a share of national income even exceeded the 10.1 percent level last reached in 1929.[17]

The second factor is the uneven distribution of this wage share among different income segments. Since 1993, households in the uppermost income segments in our six focus countries have on average received a growing share of the total wages, even as the share for low- and middle-income segments has either stagnated or fallen. This is not the case in all

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12 Shrinking household size in a country may not affect per capita income but does lead to falling "equivalized household income," a measure of household income adjusted for the number of dependents. This attempts to account for the economies of scale that come with living in larger households (additional household members receive lower weighting to reflect economies of scale). Needs of households fall with size, but not proportionately, since housing, utilities, and other necessities are not used on a per capita basis; one resident uses the same amount of heat as two, for example. For a detailed discussion of this concept, see *OECD framework for statistics on the distribution of household income, consumption and wealth*, OECD, June 2013.

13 This quintile also had falling market incomes in 2005–14.

14 Other factors that are included in the national income are rent, interest, and profits. In this report, we use GDP as a proxy for gross domestic income due to the negligible statistical discrepancy between the two numbers.

15 In the United Kingdom, unfunded liabilities in defined-benefit pension schemes are creating downward pressure on wages to workers. See Conor D'Arcy and Gavin Kelly, *Securing a pay rise: The path back to shared wage growth*, Resolution Foundation, March 2015, and Brian Bell, *Wage stagnation and the legacy costs of employment*, Centre for Economic Performance, London School of Economics, paper number CEPCP 458, November 2015.

16 While overall spending on capital goods has been weak, there has been considerable investment in information technology, whose prices have declined. See Loukas Karabarbounis and Brent Neiman, *The global decline of the labor share*, NBER working paper number 19136, June 2013; Loukas Karabarbounis and Brent Neiman, *Declining labor shares and the global rise of corporate saving*, NBER working paper number 18154, June 2012; and *How CBO projects income*, Congressional Budget Office (CBO), July 2013.

17 See *Playing to win: The new global competition for corporate profits*, McKinsey Global Institute, September 2015, and *Diminishing returns: Why investors may need to lower their expectations*, McKinsey Global Institute, May 2016.

countries: in France, Italy, and Sweden, for example, the share of upper income households actually declined somewhat in the 2005–14 period. However, in the Netherlands, the United Kingdom, and the United States, upper income households experienced strong wage growth while low-income and middle-income segments fell back sharply.

Changing demand for low- and medium-skill workers, technological advances, and growth of part-time and temporary labor contracts affected wage trends

Some long-run business and economic trends help explain this disparity. In general, demand for low- and medium-skill workers has been lower than for high-skill workers. This has coincided with a push by companies in advanced economies to concentrate spending in their home markets on capital- and knowledge-intensive activities, while lower-wage nations have taken on more labor-intensive activities. Between 1980 and 2010, competition for low- and medium-skill jobs became global. Some 85 million workers in developing economies joined the labor force in export-related activities as global corporations built out their supply chains.[18] This global competition for low-skill labor contributes to polarization of employment and wages in advanced economies, although the net effect on overall employment is unclear.[19]

Between 1980 and 2010, competition for low- and medium-skill jobs became global, with 85 million workers in emerging economies joining the labor force in export-related activities.

Technology has also skewed labor demand. In both manufacturing and services, robots and computers have automated tasks that once required workers, while information technologies have allowed companies to streamline business processes and build new types of organizations that require less but higher-skill labor.

The growth of part-time or temporary contracts has also influenced the share of wages going to low- and middle-income segments. In all six of our focus countries, middle- and low-skill workers have lower employment rates than higher-skill workers, and in almost all countries, low-skill workers are more likely to be engaged on a temporary basis. Exhibit E4 shows how this trend evolved in the five countries analyzed in this report where data was available. Some countries, such as Denmark, Germany, and the Netherlands, have reformed employment regulations to put temporary workers on a more equal footing with permanent workers in terms of job security, pension schemes, and access to training.[20] However, in the United States and some other countries, temporary work does not include benefits such as pensions and paid leave, and it is less likely to provide the experience or training that can help workers secure more highly paid employment.[21]

Flexible work arrangements with part-time hours have advantages, such as helping raise labor participation rates of workers whose domestic responsibilities can make full-time employment impractical. A small but rapidly growing number of workers is also actively

[18] For a further description of the emergence of a global labor force, see *The world at work: Jobs, pay and skills for 3.5 billion people*, McKinsey Global Institute, June 2012.

[19] Gianmarco Ottaviano, "Offshoring and the migration of jobs," *IZA World of Labor*, volume 170, July 2015; David Autor, David Gorn, Gordon H. Hanson, *The China shock: Learning from labor market adjustment to large changes in trade*, NBER working paper number 21906, January 2016.

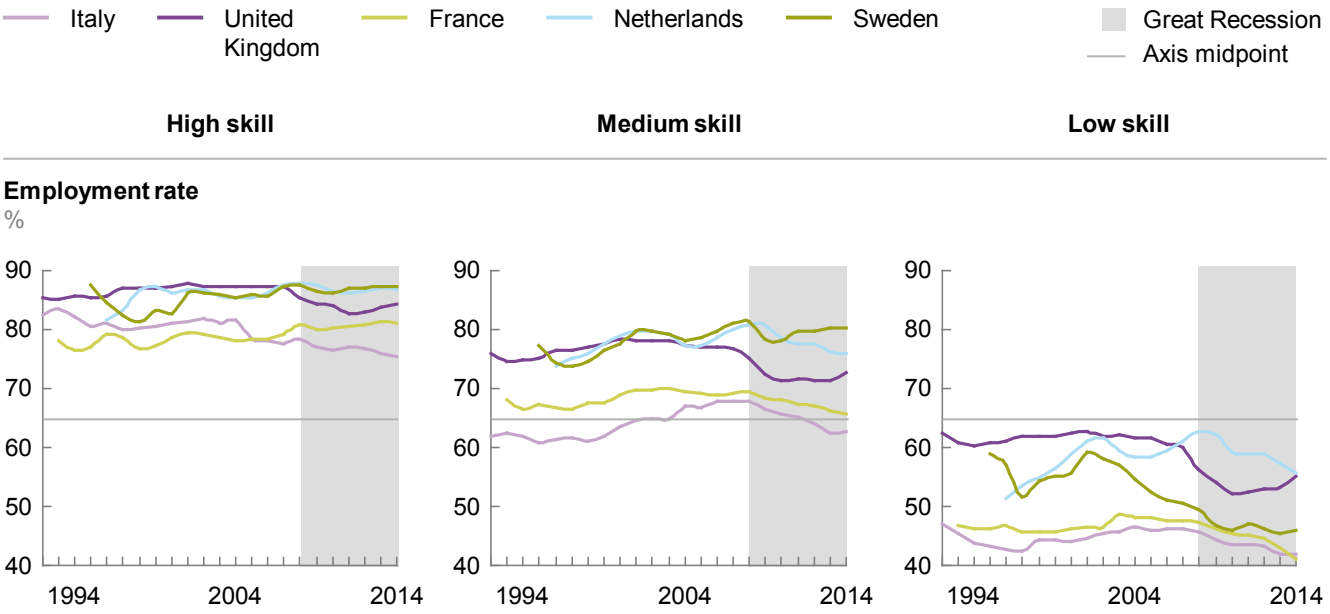
[20] Ton Wilthagen and Frank Tros, "The concept of 'flexicurity': A new approach to regulating employment and labor markets," *Transfer,* volume 10, number 2, 2004.

[21] *OECD employment outlook 2015*, OECD, July 2015.

seeking contingent work on online labor platforms.[22] However, part-time employment provides fewer hours of work per year and for some workers it remains a stopgap measure; the share of workers in our six sample countries who are working part time involuntarily (that is, they sought full-time employment but accepted part-time work) doubled from 3 percent of the labor force in 1993, on average, to more than 6 percent in 2014.[23]

Exhibit E4

Employment has been lower for low- and medium-skill workers, and they are more likely to be employed on temporary contracts



SOURCE: OECD; McKinsey Global Institute analysis

Differences in union rates and labor regulation influenced outcomes for some income and demographic segments

National labor-market institutions and practices that shaped the outcomes in employment and wages appear to have made a difference in some of our focus countries. For example, the United States is known for its relatively light labor regulation and flexible labor markets compared with most European economies. About 11 percent of private-sector workers

[22] See *A labor market that works: Connecting talent with opportunity in the digital age*, McKinsey Global Institute, June 2015.

[23] OECD labor database.

in the United States are represented by unions, compared with 30 percent, on average, in Europe. During the recession, US companies had greater freedom to cut jobs and implemented permanent labor-cost savings, despite weak demand.[24] In Europe, by contrast, labor-market rigidity may contribute to youth unemployment. For example, in Italy, employers hired fewer young workers in the recession following the 2008 financial crisis in part because of income support schemes for permanent workers. This was compounded by a 2012 pension reform that kept older workers in the workforce.[25]

The declining ability of labor to protect its share of national income, and of middle and lower income segments to protect their share of the wage pool, reduced real median disposable income growth by nine percentage points in the United States in the 1993–2005 period and by seven points in the 2005–14 period, while only two European economies, Italy and the Netherlands, experienced this negative effect in the 1993–2005 period. In the 2005–14 period, however, labor-market effects did not contribute to median disposable income growth in France, and had a negative impact in the Netherlands and the United Kingdom, where union membership has fallen the most steeply in our sample of countries. Italy, which entered the recession in a weak state and has had the greatest prevalence of flat or falling incomes, in 2015 introduced labor-market legislation aimed at simplifying rules and rigidities that have held back employment.

68%
of workers in Sweden are union members

In Sweden, where 68 percent of workers are union members, the median household received a greater share of output that went to wages—and received more of the gains from output growth than households in Sweden's top and bottom income deciles in the 2005–14 period. This reflects Swedish labor policies such as contracts that protect wage rates and hours worked. After the global financial crisis, the Swedish government worked with unions to forge agreements for temporary reductions in work hours, which preserved jobs and helped private-sector employers withstand the downturn.

Capital income factors had a relatively minor effect on median and low-income households

Capital income is derived from a range of investment and business activities including interest, dividends, and realized capital gains from financial-market investments, asset sales, business income, and private pensions. For upper income households, capital income is significantly more important than for other income segments, an issue that has become a focus of other income inequality research, including that of French economist Thomas Piketty.[26] For example, in the six countries we study in depth, in 2014, capital income amounted to 33 percent of disposable income for households in the highest income quintile. That compared with just 7 percent of disposable income for the lowest income quintile, and, for median income households, 14 percent of disposable income.

For our analysis, capital income was not a major factor, as the shift between 2005 and 2014 was very small for median and low-income households. As a percentage of disposable income, for example, the share of capital income in disposable income remained virtually unchanged on average in our six focus countries for the low- and middle-income quintiles in 2005–14. In fact, the largest movement in capital income as a share of disposable income was actually felt by high-income households in the top quintile. For them capital income fell from 35 percent of disposable income in 2005 to 33 percent in 2014.

[24] See *An economy that works: Job creation and America's future*, McKinsey Global Institute, June 2011.
[25] Antoine Bozio et al., "European public finances and the Great Recession: France, Germany, Ireland, Italy, Spain, and the United Kingdom compared," *Fiscal Studies,* volume 36, number 4, December 2015.
[26] Thomas Piketty, *Capital in the twenty-first century*, Belknap Press, 2014.

Tax and transfer policies reduced or even reversed the impact of flat or falling market incomes on disposable income

Taxes and transfers directly affected how declining market incomes translated into disposable income, and in some countries made a significant difference in reducing or even reversing the flat or falling phenomenon for some income groups, including middle-income households. Market incomes for median income segments were flat or falling in all countries except Sweden between 2005 and 2014, but disposable incomes for the median income segment fell in only two of our six focus countries, Italy and the Netherlands, by 2 to 10 percent.

In the United States, net transfers raised median disposable income growth by the equivalent of five percentage points between 2005 and 2014, turning a four-point decline in median market income into a one percentage point gain in disposable income. As part of its stimulus plan, the US government transferred more than $350 billion to households in the form of tax relief and assistance to workers affected by the downturn, including raising unemployment benefits and extending their duration.[27] In France, net transfers on an indexed basis raised median disposable income by three percentage points above median market income, while in the United Kingdom, transfers restored disposable income for median income households to their 2005 level, offsetting the decline in market income.

Central government debt in Italy, the United Kingdom, and the United States is close to

100%

of GDP

In the future, governments may find it difficult to sustain this level of spending without substantial revenue increases; government debt as a share of GDP increased over the past seven years in five of the six countries we studied. For example, central government debt is close to 100 percent of GDP or higher in Italy, the United Kingdom, and the United States. In the United States, it rose from 56 percent of GDP in 2005 to 97 percent of GDP in 2016. Sweden is the outlier with a relatively flat debt share of GDP between 2008 and 2015; while it increased debt levels to fund the effects of recession, it started from a lower level, of less than 40 percent in 2008, which gave it greater freedom to spend during the crisis.[28] In 2015, Sweden's central government debt remained steady at about 42 percent.

In the United States, net transfers in 2005–14 turned a four percentage point decline in median market income into a one-point gain in disposable income.

DIFFERING POLICY RESPONSES AND LABOR PRACTICES LED TO WIDE NATIONAL VARIATIONS IN OUTCOMES FOR INCOME GROUPS IN 2005–14

One of the findings of our research is the wide variation in income growth for different segments of the income distribution in each of our six focus countries, both in the 2005–14 period and in 1993–2005. These differences include the extent to which the pattern of income growth (or decline) for market incomes was transposed into a similar or different pattern for disposable incomes (Exhibit E5). Our findings suggest that at least some of these variations are a consequence of policy. While this study did not set out to map national policy measures to income developments in an exhaustive manner, some features do stand out.

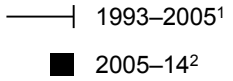
[27] Douglas W. Elmendorf, "Estimated macroeconomic impacts of the American Recovery and Reinvestment Act of 2009," CBO letter to Senator Charles Grassley, March 2, 2009.

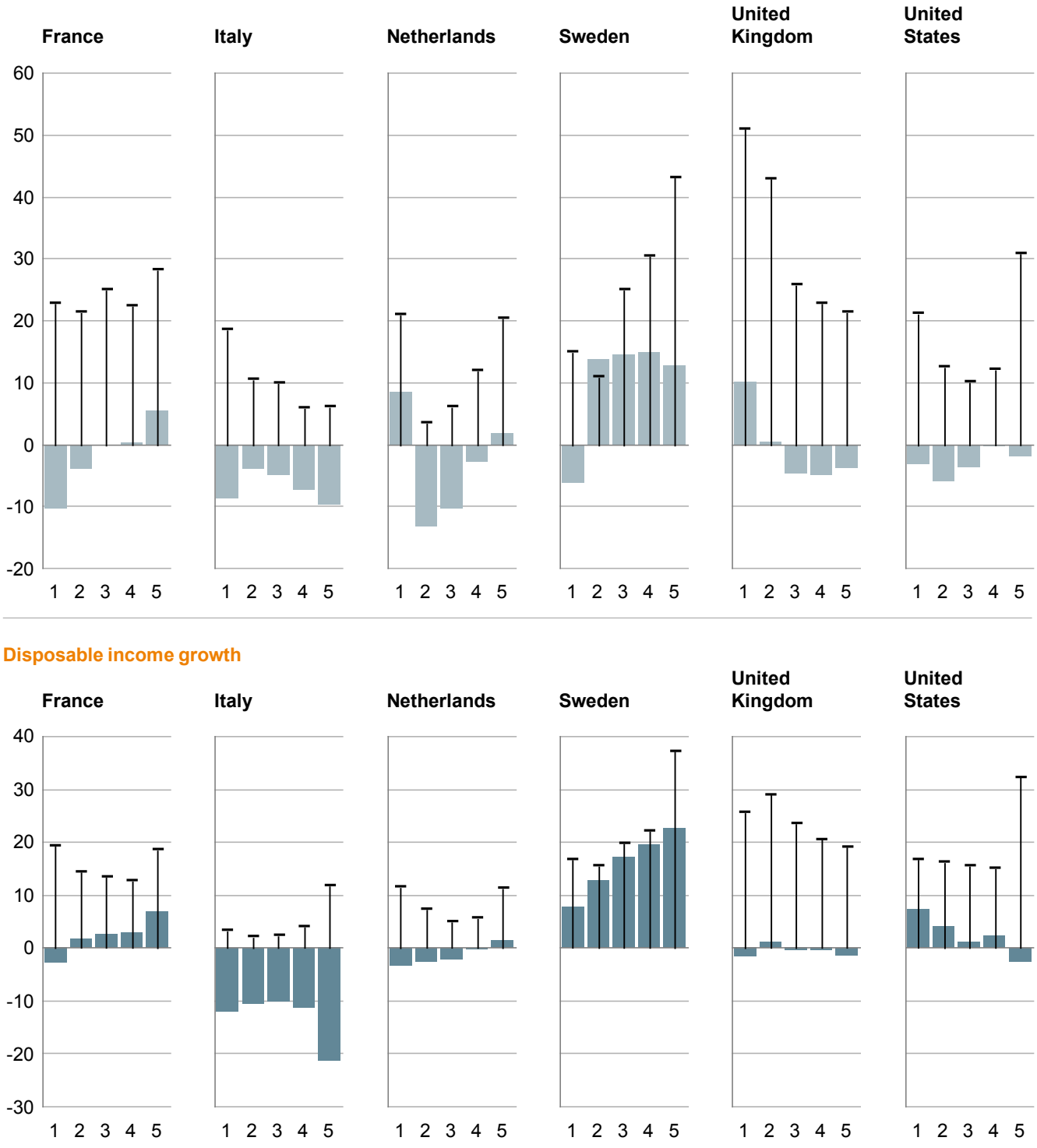
[28] *Debt and (not much) deleveraging*, McKinsey Global Institute, February 2015.

Exhibit E5

Wide variations in market and disposable incomes in the two periods were driven by differing tax and transfer policies across countries

Total growth in income by quintile (%)
Quintiles (1 = bottom, 5 = top)





1 All growth numbers are standardized to make results comparable across all countries and both time periods.
2 For each country we use the latest year the data are available: France, 2012; Italy, 2014 disposable incomes, 2012 market incomes; Netherlands, 2014; Sweden, 2013; United Kingdom, 2014; and United States, 2013.

SOURCE: INSEE; Bank of Italy; CBS; Statistics Sweden; ONS; CBO; McKinsey Global Institute analysis

First, government taxes and transfers can play a decisive role in limiting or reversing the decline of market incomes at the level of disposable incomes. Of our six countries, this was particularly striking in the United States, where a decline in market incomes for 81 percent of all income segments in the 2005–14 period translated into an increase in disposable income for nearly all households. This type of large-scale intervention could be unsustainable, however, given already high debt levels and the effect on budget deficits. Government intervention can also accentuate income declines, as happened in Italy, where austerity measures raised taxes and reduced some benefits, aggravating the drop in market incomes for all quintiles.

Second, the lowest income groups were not always the segment to bear the brunt of flat or falling incomes; in all of our focus countries except Sweden, middle-income segments also felt the impact, as a result of declining income from labor. Higher income segments also experienced a decline in market income in Italy, the United Kingdom, and the United States as a result of lower income from capital, which was especially volatile during and after the 2008 financial crisis. In the United States, higher capital income increased disposable income growth for the top quintile by 24 percentage points from 1993 to 2005, but pushed it down by six points from 2005 to 2014.

Looking at some countries individually, Sweden stands out as the only one where market incomes rose for middle-income households. Sweden had gone through a previous steep downturn in the 1990s. After 2008, the government focused on job preservation and creation, adding temporary jobs to the public sector, reducing payroll taxes for businesses, and providing tax incentives to hire young people and the long-term unemployed.[29]

In the United Kingdom, the pattern of disposable income from 1993 to 2005 highlights the outcome of the redistributive policies of the government of Tony Blair at the time, with sharp income increases for the lowest quintiles. The British economy is highly reliant on revenue from the financial sector to balance its budgets, and after an initial period of increased spending after the financial crisis, the government imposed a period of austerity when financial revenue fell post-2008. More than four-fifths of the fiscal measures associated with austerity were spending cuts that disproportionately affected working-age people (cuts to benefits and public-sector jobs, for example), although state pensions were protected from the cuts. In our data, this decrease in spending seems to have most affected the bottom quintile from 2005 to 2014, with disposable income growth decreasing by six percentage points because of taxes and transfers.[30]

In France, there was a notable difference in the impact of labor-market factors on different quintiles. These labor-market factors reduced disposable income growth by four percentage points for the lowest quintile, and increased it by two percentage points for the top quintile. This could be a reflection of France's two-tiered labor market, where lower-paying jobs are often temporary and do not provide the same level of benefits or security. Moreover, throughout the financial crisis, the unit cost of workers in France continued rising, and some companies opted to stop hiring and end short-term contracts.[31]

[29] Dominique Anxo and Thomas Ericson, *Labor market measures in Sweden 2008-13: The crisis and beyond,* ILO, February 2016.

[30] Antoine Bozio et al., "European public finances and the Great Recession: France, Germany, Ireland, Italy, Spain, and the United Kingdom compared," *Fiscal Studies*, volume 36, number 4, December 2015.

[31] Mathias André et al., "French public finances through the financial crisis: It's a long way to recovery," *Fiscal Studies*, volume 36 number 4, December 2015.

EVEN A RETURN TO STRONG GDP GROWTH MAY NOT ELIMINATE THE FLAT OR FALLING TREND AS DEMOGRAPHIC AND LABOR FACTORS WEIGH ON INCOMES

All five of the factors we identified earlier as underlying the stagnation or decline in median household incomes since 2005 are likely to affect income growth in the future. We have conducted some sensitivity analyses for income growth over the next decade to 2025, using different hypothetical models for aggregate demand, wage share of GDP, and the impact of automation on labor demand and employment.[32]

The pace of GDP growth in advanced economies is one of the most variable of our five factors and while it will not be the sole determinant of income growth, it will be a major one. As we have seen, the post-2008 global recession and slow recovery had a significant impact on incomes by substantially reducing the aggregate demand component of income growth compared with buoyant growth in the 1993–2005 era, even though aggregate demand factors nonetheless had a positive effect on median household incomes in the 2005–14 period.

The demographic factors—that is to say, the decline in household size and a drop in the number of working-age adults per household—are more predictable, as they are long-run trends resulting from the increased aging of the population, lower fertility rates, and changes in family structures, with more single-parent families. The labor-market factors—the wage share and its uneven distribution among different income segments—will likely continue to be affected by a range of developments, including the growing use of automation in the workplace.

Previous MGI work has laid out evidence that long-term productivity growth has been achievable without job losses, and that technological innovation in the past has created more jobs than it destroyed. In the United States, for example, positive gains in both productivity and employment have occurred in more than two-thirds of the years since 1929.[33] However, the spread of digitization, which increases the automation potential of many sectors of the economy, has also prompted forecasts that this historic link between productivity growth and employment growth could change.[34] MGI has estimated that automation could accelerate displacement of medium-skill jobs to nearly twice the rate of recent decades, with as much as 15 percent of such jobs being affected.[35]

Changes in capital income have not been a significant factor for middle-income households, although they have affected high-income household. However, the potential for reduced returns on stock and bond investments over the next 20 years after a period of exceptional increases from 1985 to 2014 could affect public and private pensions for all income segments.[36] Taxes and transfers will continue to influence disposable income, at a time when many governments' sovereign debt has risen to historic levels and they have not yet begun the process of deleveraging.[37]

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32 We model these scenarios for three countries—France, Italy, and the United States—where we had the microdata to estimate employment and wage outcomes for different types of labor market participants, based on education, age and gender. The consolidated results are based on a simple average of these three economies, which we use as a proxy for outcomes across advanced economies.

33 *Growth and renewal in the United States: Retooling America's economic engine,* McKinsey Global Institute, February 2011.

34 Erik Brynjolfsson and Andrew McAfee, *Race against the machine,* Digital Frontier Press, 2011. For an assessment of automation potential, see Michael Chui, James Manyika, and Mehdi Miremadi, "Four fundamentals of workplace automation," *McKinsey Quarterly*, November 2015.

35 *Digital America: A tale of the haves and the have-mores*, McKinsey Global Institute, December 2015.

36 *Diminishing returns: Why investors may need to lower their expectations*, McKinsey Global Institute, May 2016.

37 *Debt and (not much) deleveraging*, McKinsey Global Institute, February 2015.

To explore how differences in productivity growth and labor-market factors such as automation could impact income growth over the next decade to 2025, we conducted three sensitivity analyses. One of these analyses was a "low-growth" case. This assumes that the slow average growth in productivity and employment in the decade from 2002 to 2012, which included the recession and recovery period, will continue throughout the next decade. This assumes annual GDP growth at -0.4 percent for Italy, 0.9 percent for France, and 1.8 percent for the United States. Demographic and labor-market effects follow the same trend as the 2002–12 period. These assumptions are in line with the diagnosis of some economists that the global economy is undergoing a period of "secular stagnation."[38] Under this low-growth hypothesis, an even larger proportion of income segments in advanced economies—from 70 percent to 80 percent—could experience flat or falling real market incomes in the next decade to 2025 than during the 2005–12 period. Governments might need to make targeted transfers as high as 15 to 20 percent of all net transfers made in 2012, on average, to avoid losses of disposable income—a burden that would be difficult for many governments to bear.

70-80%
of income segments could experience flat or falling incomes in the next decade if growth remains low

Our "high-growth" case assumes higher annual GDP growth, of 1.3 percent for Italy, 1.8 percent for France, and 2.4 percent for the United States, with productivity growth in advanced economies reverting to the 30-year average preceding the financial crisis, about 2 percent per year. Unemployment rates would fall as demand accelerates, and we assume that factors such as demographic shifts and technology adoption would continue to affect labor-market dynamics and incomes as they have in the past decade. With this sustained economic upturn, the proportion of household income segments experiencing flat or falling incomes would drop off sharply but not disappear.

Under these conditions, market incomes might be flat or falling in 10 to 20 percent of income segments across advanced economies. While that is considerably lower than the proportion of households affected in 2005–14, it is five to ten times the pre-2005 level.

The relationship between productivity growth and income growth is uncertain, so using similar productivity assumptions as the high-growth hypothesis, we also modeled a variation on the high-growth case as a third hypothesis. For this, we incorporated a greater disruptive impact of technology on employment. This reflects the potential for increasingly powerful digital technologies to take on many activities now requiring workers, further reducing demand for low- and medium-skill workers.[39] To understand the potential range of this sensitivity, we assumed, on the basis of prior MGI research, that advances in technology might automate as much as 15 percent of the work that medium-skill workers do.[40] Unemployment and underemployment would rise, and the wage share would fall further. Some 30 to 40 percent of the population might be in income segments where real market incomes in 2025 are flat or down compared with 2012. To sustain disposable incomes, additional targeted transfers of as much as 5 to 10 percent of 2012 net transfers might be needed.

It should be noted that this labor disruption hypothesis does not fully model the normal behavior of economies. In reality, the wealth and investment created by rising productivity would create new types of demand, which would lead to jobs that do not exist today. This has been the pattern when new technologies have disrupted labor markets in the past: rising output leads to more profits, which enables new investment, leading to new

[38] The secular stagnation hypothesis, which holds that an oversupply of savings and a lack of investment can reduce growth, inflation, and the "natural" equilibrium interest rate, dates back to the 1930s and has gained renewed attention recently. See Lawrence H. Summers, "The age of secular stagnation: What it is and what to do about it," *Foreign Affairs*, March/April 2016.

[39] For a discussion of the potential effect of automation, see Michael Chui, James Manyika, and Mehdi Miremadi, "Four fundamentals of workplace automation," *McKinsey Quarterly*, November 2015.

[40] *Digital America: A tale of the haves and the have-mores*, McKinsey Global Institute, December 2015.

employment and more demand. However, this sensitivity analysis serves to illustrate the extent to which rapid technological changes could affect income inequality for a sustained period if they outpace the rate at which workers and employers adapt to the new realities of the labor market.

WHAT CAN BE DONE TO ADVANCE INCOMES?

Income inequality in general has become a high-profile public issue that challenges both government and business, and the sheer numbers of households affected by flat or falling incomes cannot be ignored. In this final section we identify a set of potential actions that policy makers and business leaders may want to consider as they seek to address the causes, reduce the number of people affected, and mitigate the effects.

The ideas we present here are not designed to be prescriptive or recommendations that all countries could and should adopt. Moreover, the evidence base about the second- and third-order effects of many of these policies is limited and needs further investigation. For government policy makers and business leaders alike, introducing changes that rekindle income advancement is not straightforward and may require some difficult trade-offs. Policies to raise productivity may not help reduce income inequality, for example, while efforts to achieve a more equal income distribution may at times inhibit moves to increase productivity growth. The policy options we outline are primarily aimed at stimulating discussion. They fall into four categories: improving the measurement of flat and falling incomes; ways to rekindle economic growth and broadly support business expansion and job creation; initiatives to provide more opportunities for low- and middle-income households to find work; and policies to secure the income and consumption levels of low- and middle-income households through transfers, tax reforms, labor-market regulations, and compensation practices. We also identify several measures that businesses could undertake by way of their contribution to reducing income inequality.

Creating measurement tools to gauge the extent and evolution of flat or falling incomes

International organizations including the OECD and the International Labour Organisation (ILO) are starting to look at more effective ways to measure income inequality, alongside other standard economic indicators such as unemployment or GDP growth. Income advancement could become a policy goal in its own right, a fundamental indicator of the health of the economy and society, comparable to poverty reduction or sustaining overall employment.

To address the issue of flat or falling incomes effectively, policy makers will need to adopt specific metrics to track the phenomenon across the entire income spectrum. For now, such data are not comprehensive or systematically gathered in most countries, and where statistics are available, they tend to be based on survey data. Measuring flat or falling incomes is an important starting point to provide a fact base, and the metrics could be improved, including through use of more reliable sources such as tax data.

Tracking this data could be part of the formal mandate of international organizations including the OECD or the World Bank so that it can be aggregated and compared across countries. As different policies are deployed around the world, they could be structured in a way that would enable their outcomes to be measured. Tracking and evaluating flat or falling incomes would allow for the development of a set of best practices that could be deployed across countries affected by the phenomenon. Governments could also study the impact of policy measures on the advancement of incomes, for example whether changes in depreciation rates could affect labor-market factors such as the wage share.

Reviving growth and enabling a thriving business environment that creates jobs

As we have seen, the economic downturn was a fundamental cause of the lack of income advancement for a large majority of income segments since 2005. The corollary is that revival of stronger economic growth will be a key to raising incomes, even in the face of demographic shifts and labor-market changes that work against them. Conversely, if the current low-growth world becomes the new "normal," the phenomenon of flat or falling incomes could become entrenched.

The paramount importance of boosting growth through improved productivity is a theme we have covered extensively in 25 years of MGI research.[41] About three-quarters of the potential for productivity improvements comes from the adoption of existing best practices and "catch-up" productivity improvements, while the remaining one-quarter comes from technological, operational, and business innovations that push the frontier of the world's GDP potential. Governments have many opportunities to help boost productivity, including through measures that would reduce waste and improve resource and energy efficiency, increase competition and deregulation, or target infrastructure and other investment that creates new jobs in the short run and shores up economic growth over the longer term.

Developing measures aimed at households most at risk

Beyond such general remedies, the phenomenon of flat or falling incomes could be addressed through measures specifically aimed at low and middle-income households or the population segments we identify as being most at risk, including young people with low educational attainment, women, and older workers.

Upgrading skills and easing the transition from education to employment is one approach. At the secondary school level, public school systems can collaborate with local businesses to craft vocational training and apprenticeship programs, particularly in fast-growing service industries such as health care. Governments and businesses could work with universities and other post-secondary institutions to expand access to quality education and ensure that the education provided is relevant to the workplace of tomorrow. Incentives could be offered for students to pursue fields of study, such as science, technology, engineering, and math subjects, that lead to more lucrative jobs.

To raise labor participation among women and older workers, policy makers could provide greater access to child care, or help women enter or reenter the labor force by removing tax rules that penalize two-income households. Technology could also provide some solutions. For example, digital platforms such as LinkedIn or Monster, which link employers with workers, provide a new way of overcoming a skills mismatch, while companies such as TaskRabbit provide opportunities for individuals to become engaged in independent work. MGI has estimated that online platforms could increase global GDP by 2 percent to 2025.[42] Enforcing anti-discrimination laws would also help raise incomes for women and minority segments. Pension reforms can reduce the proportion of workers who leave the labor force early.

Using tax and welfare policies to secure disposable income growth

Many advanced economies, including the United States, used transfer and tax policies to battle the effects of the recession and its aftermath. Fiscal stresses and mounting government debt can make raising taxes and transfers economically challenging today and in the future. But rather than implementing broad-based redistributive programs, policy makers can use tools targeted at income deciles with flat or falling incomes that are not as costly. For example, even where national income taxes are low, sales

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41 Most recently, *Global growth: Can productivity save the day in an aging world?* McKinsey Global Institute, January 2015.

42 *A labor market that works: Connecting talent with opportunity in the digital age*, McKinsey Global Institute, June 2015.

and value-added taxes, payroll taxes, and property taxes can fall heavily on low- and middle-income households. These taxes could be adjusted to raise disposable incomes for these households. Policy makers can also consider the impact of their spending decisions on disposable incomes of segments whose incomes are not advancing. A public transit system, for example, is likely to provide more value for a lower income household than a new highway.

Where there is political consensus, direct payments such as a guaranteed basic income scheme or expansion of programs such as the US earned income credit could be used to maintain disposable incomes, although such measures can be highly controversial.[43] Also, where appropriate, labor rules could help lift incomes for segments that have not been advancing. This might include adjusting minimum wages or extending employment protections and benefits to part-time and temporary workers, which some countries already have done.

Business leaders have a role

Flat or falling incomes—and the underlying causes—have direct effects on business and raise questions about how businesses can thrive over the long term in advanced economies. The declining purchasing power of the broad middle classes in consumption-driven economies is the most obvious problem. Another arises from one of the most important causes of income stagnation—escalating demand (and cost) for high-skill labor and falling demand for other types of workers. This is creating a potentially serious shortage of qualified high-skill talent across advanced economies and a glut of less-skilled workers.[44]

Both in the United States and internationally, business leaders are being encouraged to think about long-term outcomes for their companies and for all stakeholders, including employees, customers, and their communities—starting with contributing to broad-based prosperity.[45] Business leaders have a legitimate role to play in shaping the discussion on flat or falling incomes and helping to create solutions. CEOs can be advocates for the investment and growth necessary to create employment. They may recognize that paying better wages and introducing profit-sharing and non-cash benefits can raise employee disposable incomes and at the same time raise productivity and loyalty. Companies can also benefit by taking steps to keep women and older workers in the workforce. Finally, companies can invest in a better labor pool—and increase the earning potential of workers—by collaborating with the public sector on job-relevant education. More broadly, companies can act as catalysts in their communities to enact policy changes.

•••

Widespread income stagnation in advanced economies is a phenomenon that we are just beginning to understand. Without a return to much stronger GDP growth in advanced economies—and potentially even if GDP growth were to accelerate—the trend will likely persist, as a result of deep shifts in demographics and labor markets. Even if there is a substantial uptick in productivity-led growth over the next decade, a minority of households may remain in segments whose income is flat or falling. Not advancing is a development that could have corrosive social and economic consequences, yet it is not a foregone conclusion. Our research suggests that policy can make a difference. The flat or falling trend merits bold measures on the part of government and business alike.

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[43] For example, voters in Switzerland in a June 2016 referendum overwhelmingly rejected the introduction of a guaranteed basic income.

[44] *The world at work: Jobs, pay, and skills for 3.5 billion people*, McKinsey Global Institute, June 2012.

[45] See, for example, Dominic Barton, "Capitalism for the long term," *Harvard Business Review*, March 2011; John Browne, with Robin Nuttall and Tommy Stadlen, *Connect: How companies succeed by engaging radically with society*, PublicAffairs, 2016; Kathleen McLaughlin and Doug McMillon, "Business and society in the coming decades," *McKinsey Quarterly*, April 2015.

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1. THE GROWING PHENOMENON OF FLAT OR FALLING INCOMES

One perspective on income inequality is poverty—"not getting by." This means not having sufficient income to provide for basic needs, and it is measured as the share of the population living below a nationally determined poverty line. In the developing world, economies still struggle with extreme poverty. In advanced economies, poverty rates have been lower and more stable. Nonetheless, despite overall economic prosperity and efforts to address poverty, 10 to 20 percent of the population in advanced economies lives below national poverty lines.

A second, and more common, approach to inequality is to focus on the growing share of income going to high-income households. As the wealthiest cohorts of the population pull away from less affluent groups, more than half the population in advanced economies falls into a category we call "not catching up"—meaning that the gap between their incomes and those of the next-richest income segment is widening. We find that while the majority of income segments in advanced economies are not catching up, this was also the case earlier and does not represent a big shift or new development. The share of the population in advanced economies whose income is not rising as rapidly as that of people in the next decile rose slightly from 55–60 percent to 60–65 percent for market incomes, and from 45–50 percent to 60–65 percent for disposable incomes (Exhibit 1).

This research focuses on a third aspect of inequality—the proportion of households or people in income segments whose real market incomes were flat or below where they had been almost a decade previously (see sidebar, "What distinguishes our approach to income inequality"). This does not mean that individual households' wages necessarily went down, but that overall, the average household in that income segment had not seen any income advance over the period, and indeed may have experienced a decline.

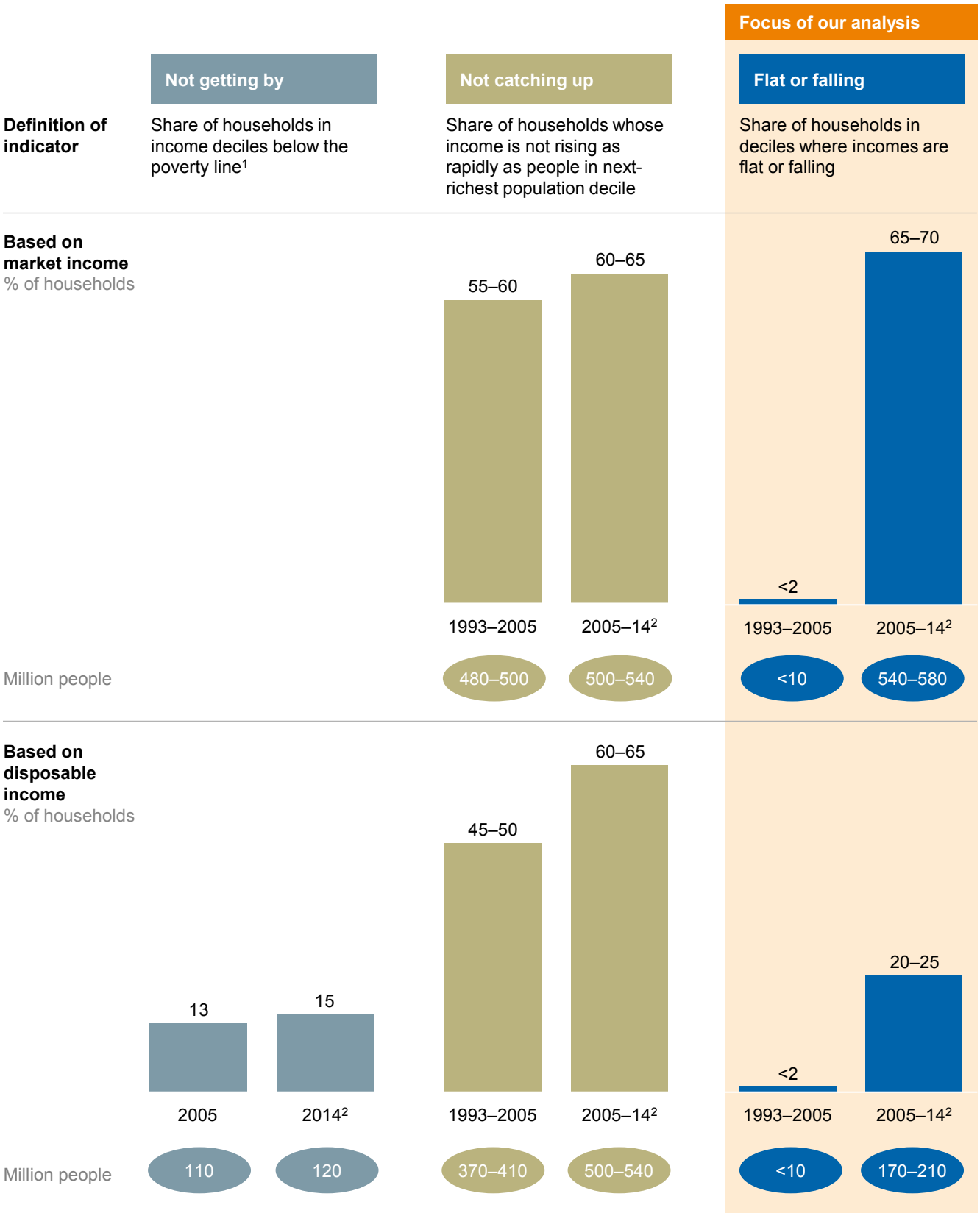
In the past, incomes have stagnated and sometimes fallen in some advanced economies, especially during wartime or the Great Depression of the 1930s. Most recently, real growth in incomes came to a halt in many countries during the years of stagflation in the 1970s. What is new is seeing such a large proportion of households—nearly two-thirds of all income groups in 25 countries by our estimates, or between 540 million and 580 million people—not advance economically over a decade. This is more people than are affected by poverty or not catching up, and we believe it marks a significant development in income inequality. If the trend continues, it might even have greater impact on advanced economies than other forms of income inequality because it could hold back consumption growth and raise political tensions.

We examined this phenomenon of income non-advancement in three ways. We first looked at households in the same relative position on the income distribution to see how incomes in 2014 compared with incomes for households in the same position in 2005. Second, we segmented the population by age and educational attainment and compared how the income of these segments changed for the period 2002–12. We did this analysis for France, Italy, and the United States, where data were available. Third, we investigated perceptions by conducting a survey of citizens. We asked about their income, and whether they felt they were advancing today or would advance in the next five years.

In the next sections, we will explore each of these in turn.

Exhibit 1

The share of households with flat or falling incomes in advanced economies now surpasses the share of those not catching up or not getting by



1 Market income data is not shown for the "not getting by" segment as countries do not typically measure pre-transfer poverty rates.
2 For each country we use the latest year the data are available—France (2012), Italy (2014 disposable incomes, 2012 market incomes), the Netherlands (2014), Sweden (2013), United Kingdom (2014), United States (2013).

SOURCE: McKinsey Global Institute analysis

What distinguishes our approach to income inequality

Income inequality is a recurrent theme of economic literature that has attracted particular attention in recent years. Even before the 2014 publication of Thomas Piketty's best-selling book, *Capital in the twenty-first century*, there was already a considerable and growing body of research on the topic.[1]

Our focus on the phenomenon of flat or falling incomes is a different approach from that of many others. It shows that wages across the income distribution are under pressure and that policies can have an important effect in whether this effect translates into a change in distribution.

Our research differs from others in several ways. First, we do not track individual or cohort progression—in other words, social mobility.[2] Instead, we look at segments of the income distribution such as deciles and quintiles and see how households in these segments compare with similar households in the same segment in a previous period. Thus, we identify whether a person who enters the workforce as a member of the second decile today would be worse off than someone entering the second decile in a previous period. We also focus on the entire population, rather than on a small top percentile, as some others including Piketty do, and we compare deciles across time periods, rather than against one another within the same time period.

Second, our work focuses strictly on income, which is a different measure of relative well-being from both wealth and consumption. Some others focus on the widening gap between wealth inequality and income inequality, since inequality in the distribution of wealth has increased faster than inequality in the distribution of income.[3] We focus on incomes because the data are more accessible and reliable than data on wealth and consumption, notably because they can be cross-referenced with tax information. Wealth measurements are prone to error at the top of the distribution, which can distort statistics. Consumption measurements are not standardized across countries, and their self-reported nature makes them inherently unreliable.

Third, our research uses the Gini index, the standard measure of inequality, to help us identify and group advanced economies alongside the six we studied in detail. A Gini coefficient measures inequality in a distribution, whereas our income analysis by decile gives us a view of changes in that distribution. Our deciles can be used to calculate the evolution of the Gini coefficient in each country, but a Gini coefficient change cannot be used on its own to infer underlying dynamics.

Fourth, our analysis is intracountry, as opposed to others that have highlighted intercountry inequality.[4] Finally, we focus on time periods that are shorter than those of some others. Our focus is on two periods, 1993–2005 and 2005–14. This is considerably shorter than recent OECD inequality work, which looks at a 30-year period ending in 2015. Piketty compiled a data set stretching back much further, to the Industrial Revolution in the 18th century.[5] While our analysis is slightly sensitive to years chosen, we tested our findings with a sensitivity analysis of the periods 2003–2014 and 2008–2014, to test different levels of impact of the financial crisis, and found that both cases still showed a large proportion of households in segments of the income distribution that had flat or falling incomes.

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1 Thomas Piketty, *Capital in the twenty-first century*, Belknap Press, 2014. Other works that have examined this aspect include Philippe Aghion et al., *Innovation and top income inequality*, CEPR discussion paper number 10659, June 2015; Anthony Atkinson, *Inequality: What can be done?* Harvard University Press, 2015; David Autor, "Skills, education, and the rise of earnings inequality among the 'other 99 percent,'" *Science*, volume 344, issue 6186, May 2014; François Bourguignon, *The globalization of inequality*, Princeton University Press, 2015; Brian Keeley, *Income inequality: The gap between rich and poor,* OECD, December 2015; Branko Milanovic, *Global inequality: A new approach for the age of globalization*, Harvard University Press, 2016; José Gabriel Palma, "Homogeneous middles vs. heterogeneous tails, and the end of the 'Inverted-U': The share of the rich is what it's all about," *Development and Change*, volume 42, number 1, January 2011; Joseph E. Stiglitz, *The price of inequality: How today's divided society endangers our future*, W. W. Norton, 2012.

2 Others who focus on social mobility include Philippe Aghion et al., *Innovation and top income inequality*, CEPR discussion paper number 10659, June 2015.

3 Thomas Piketty, *Capital in the twenty-first century*, Belknap Press, 2014.

4 François Bourguignon, *The globalization of inequality*, Princeton University Press, 2015; Branko Milanovic, *Global inequality: A new approach for the age of globalization*, Harvard University Press, 2016.

5 Thomas Piketty, *Capital in the twenty-first century*, Belknap Press, 2014; *In it together: Why less inequality benefits all,* OECD, 2015.

ABOUT TWO-THIRDS OF INCOME SEGMENTS IN ADVANCED ECONOMIES EXPERIENCED FLAT OR FALLING INCOMES IN 2005–14

Our first analysis focused on income segments in six advanced economies (France, Italy, the Netherlands, Sweden, the United Kingdom, and the United States) over the past two decades. We then scaled up the findings to include 19 other advanced economies with similar growth rates and income distribution patterns, for a total of 25 countries that, in 2012, had a combined population of about 800 million and accounted for just over half the global GDP.[46]

In our base period, from 1993 to 2005, real market incomes increased across almost all deciles of the income distribution in all six countries. Disposable income also rose in every income group in all six countries in the same period.

This rise in both market and disposable incomes was largely in line with historical trends. From the end of World War II to the mid-1970s, real market and disposable incomes rose for the majority of the population, along with GDP.[47] Between 1960 and 1973, a period of robust growth, per capita GDP rose by 4 percent per year on average in advanced economies, and real disposable incomes grew for virtually every income group.[48] The pattern broke during the stagflation of the 1970s and early 1980s, but GDP and income growth rebounded in the late 1980s and continued without interruption after a brief recession in 1990 and 1991.[49] From the early 1990s to 2005, before the onset of the global financial crisis, GDP per capita rose by 2 to 4 percent per year and real median household market incomes also rose.

Then, abruptly, everything changed. Our research indicates that in 2014, the market incomes of 65 to 70 percent of income segments in advanced economies were flat or falling compared with their level in 2005, meaning that pretax household incomes based on income decile averages did not advance during the period. In our six focus countries alone, more than 400 million people were in income segments with flat or falling market incomes. In the preceding 12-year period from 1993 to 2005, less than 2 percent of households were in income segments that experienced flat or falling market incomes. At the level of disposable income—after accounting for taxes paid and transfers received—20 to 25 percent of households were in income segments that did not advance in the 2005 to 2014 period.[50] That again compared with less than 2 percent in the 1993–2005 period (Exhibit 2).

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46 The 25 advanced economies we scaled up to are Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland, the United Kingdom, and the United States. Countries including Japan and South Korea are not included for lack of available comparative data.

47 For an overview of income growth by quintile in the United States between 1947 and 1989, see Paul Krugman, "The rich, the right, and the facts: Deconstructing the income distribution debate," *American Prospect*, fall 1992.

48 World Bank's World Development Indicators data, available starting in 1960.

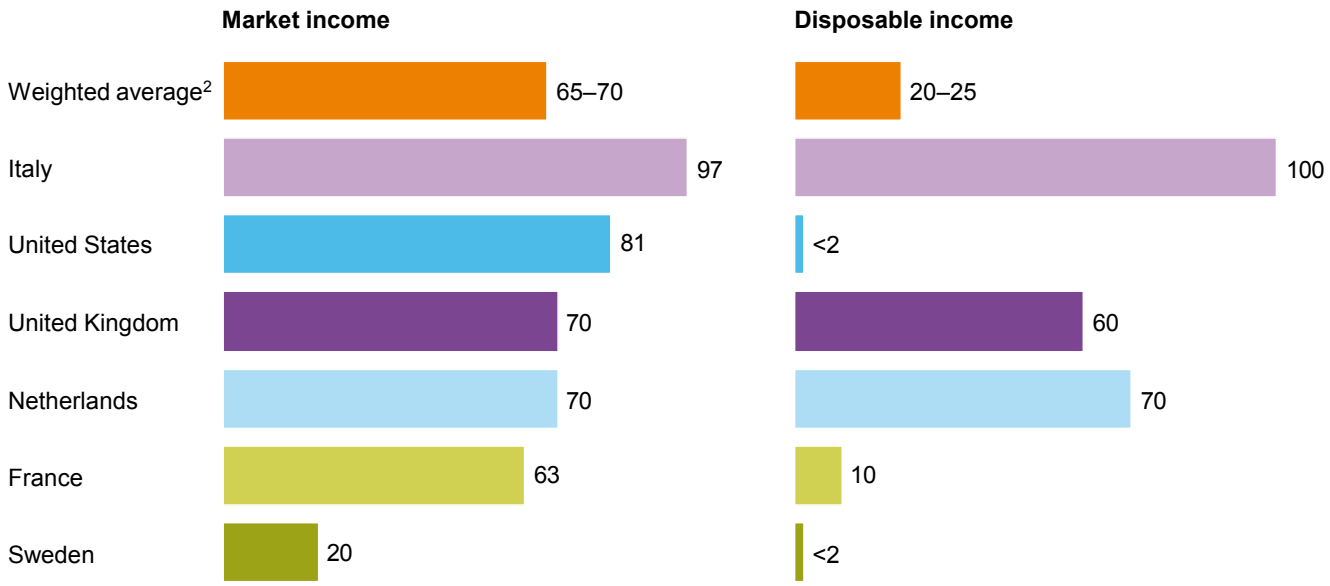
49 See John Helliwell, "Comparative macroeconomics of stagflation," *Journal of Economic Literature,* volume 26, issue 1, 1988.

50 Our analysis shows that for middle-income households, net transfers are typically 5 to 15 percent of disposable income, while in the poorest households (the tenth percentile), transfers can provide 50 to 70 percent of disposable income. We cannot say that a specific family has less income than it had a decade ago, because we did not track incomes for individual households. However, from studies of social mobility, we know that most people remained in the same income decile over the period of a decade and are therefore stuck or moving backwards in terms of household income. See sidebar, "Social mobility has done little to raise incomes in advanced economies," later in this chapter for a discussion of social mobility.

Exhibit 2

In the past decade 65 to 70 percent of income segments in advanced economies had flat or falling market incomes and 20 to 25 percent had flat or falling disposable incomes

% of households in income segments with flat or falling income, 2005–14[1]



1 For each country we use the latest year the data are available—France (2012), Italy (2014 disposable incomes, 2012 market incomes), the Netherlands (2014), Sweden (2013), United Kingdom (2014), United States (2013).
2 Population-weighted average of 25 countries extrapolated from six country deep dives.

SOURCE: INSEE; Bank of Italy; CBS; Statistics Sweden; ONS; CBO; McKinsey Global Institute analysis

In Italy, market incomes declined for virtually all income groups (97 percent of the population).[51] In France, the Netherlands, the United Kingdom, and the United States, 60 to 80 percent of income segments did not advance in market income. Sweden was the outlier: in only two deciles were market incomes flat or declining.

Disposable income was also affected in every one of these six countries from 2005 to 2014, but the pattern was quite different from the pattern of market incomes, largely as a result of different macroeconomic conditions and policy responses. Disposable income in Italy was flat or fell across all income deciles. That was largely the result of tax increases and reductions in benefits driven by austerity measures. Disposable incomes were flat or falling in 60 to 70 percent of the population groups in the Netherlands and the United Kingdom. However, in the United States, only the top 1 percent of the population had flat or falling disposable income, while in Sweden disposable incomes rose for every decile. This cushioning of disposable income was attributable to substantial government intervention after the 2008 financial market crisis.

In Chapter 2 we discuss the factors underlying this phenomenon—the sharp economic recession and weak recovery after the 2008 global financial crisis, long-run factors such as demographic and labor-market changes, capital income movements, and government

[51] Not all flat or falling groups are multiples of 10 percent due to the availability of more granular data in some countries. For Italy, we have access to household income microdata that we grouped into percentiles to find the percentage of percentile groups that had flat or falling market income. For disposable income in Italy, we use data from the Bank of Italy, which groups households into deciles. In France, we use microdata from 72,000 households to calculate the percentile groups that had flat or falling market and disposable income. For the United States, the Congressional Budget Office provides quintile data for the bottom 80 percent of the population and also provides data on the 80th–90th percentile, the 90th–95th percentile, the 95th–99th percentile and the top 1 percent.

taxes and transfers. To ensure that the outcomes were not unduly influenced by our choice of the years we compared, we also conducted an analysis from 2003 to include four years of pre-recession growth. It found similar results in terms of the number of households not advancing. On average, 40 to 50 percent of deciles had flat or falling real market incomes, and for 10 to 20 percent, disposable incomes were not advancing either. This suggests that other factors were affecting income growth even before the steep downturn.

This phenomenon has primarily affected advanced economies. In developing economies, we find that even though income inequality is rising, the phenomenon of flat or falling incomes has not been a widespread problem (see sidebar, "With few exceptions, incomes in developing economies have been rising for all groups").

Flat or falling incomes affected a range of income deciles

Middle-income households have been among the most affected by the phenomenon of flat or falling incomes. In four of our six focus economies, market incomes of the middle (second to fourth) quintiles of households in 2014 were below the levels of 2005 in real terms, while incomes for the top quintiles in the same countries rose. Sweden was the striking exception: real market incomes rose for all quintiles except the bottom-most. In Italy, incomes fell for all groups, including the top quintile. In the United Kingdom, the second (lowest middle) quintile rose slightly, but the top three quintiles declined (Exhibit 3).

The comparison with the baseline period of 1993–2005 is especially stark. Of all the income quintiles in all six of the focus economies, only one quintile in one country—the second quintile in Sweden—experienced market income growth in 2005–14 that exceeded the previous period. All the other income segments fared considerably worse.

With few exceptions, incomes in developing economies have been rising for all groups

From the 1980s to the early 2000s, hundreds of millions of people were brought out of extreme poverty in developing economies. In 1981, two billion people, or 54 percent of the population in low- and middle-income countries, lived below the extreme poverty line; by 2011, that figure was down to one billion people, or only 15 percent of the population in low- and middle-income countries.[1] In China, the share of the population in extreme poverty dropped from 88 percent in 1980 to approximately 5 percent in 2015. Extreme poverty still averaged 43 percent in sub-Saharan Africa in 2015.[2]

While inequality has risen along with wealth in many developing economies, people at all levels of the income distribution were advancing during most of the 2000s and early 2010s. In Brazil and Russia, for example, labor income rose across all income deciles during the period of robust output growth between 2003 and 2013. In India, total household consumption climbed between 29 and 36 percent across income deciles between 2005 and 2012.[3] In all three countries, the poor—those in the bottom half of the income distribution—benefited from increases in government transfers, often funded by resource exports, and from rising public-sector wages.

As in the advanced economies we studied, income trends in developing economies are heavily influenced by GDP growth. In 2015, with high inflation in Brazil and the sharp drop in oil prices that affected Russia, the economies of both countries changed course and fell into deep recession, accompanied by falling wages and increased poverty rates.[4]

1 World Bank's Poverty and Equity database.

2 Cruz et al., *Ending extreme poverty and sharing prosperity: Progress and policies*, World Bank policy research note number 3, October 2015.

3 *Russia Longitudinal Monitoring Survey* (RLMS-HSE) conducted by the National Research University Higher School of Economics, and ZAO "Demoscope" together with Carolina Population Center, University of North Carolina at Chapel Hill and the Institute of Sociology of the Russian Academy of Sciences; Instituto Brasileiro de Geografia e Estatística; National Sample Survey Office (India) 2005 and 2012 consumption expenditure round.

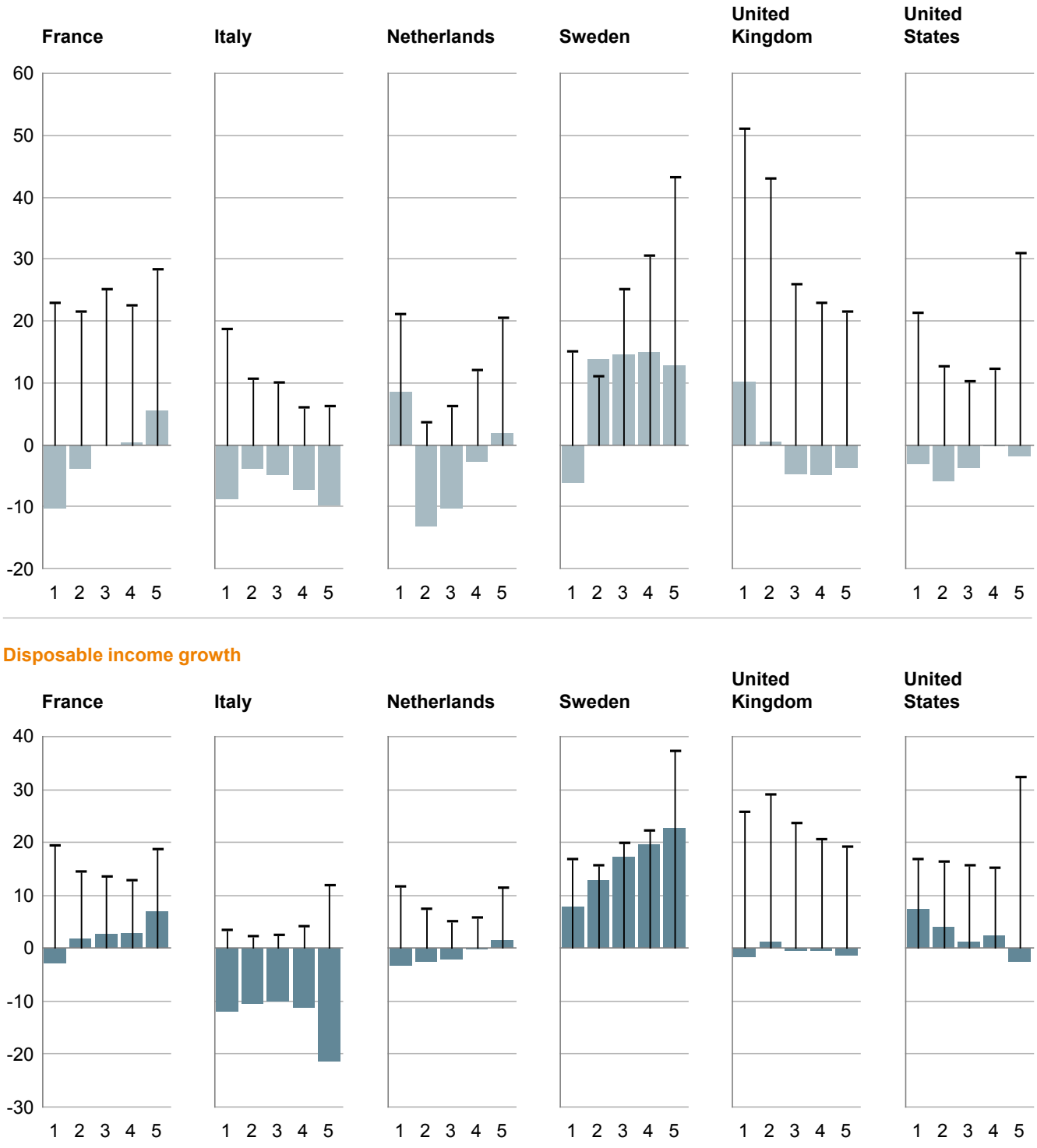
4 In the first half of 2015, for example, real wages in Russia fell by 8.5 percent and poverty rates rose. See *Russia economic report 34: Balancing economic adjustment and transformation*, World Bank, September 2015.

Exhibit 3

Wide variations in market and disposable incomes in the two periods were driven by differing tax and transfer policies across countries

Total growth in income by quintile (%)
Quintiles (1 = bottom, 5 = top)

1993–2005[1]
2005–14[2]



1 All growth numbers are standardized to make results comparable across all countries and both time periods.
2 For each country we use the latest year the data are available: France, 2012; Italy, 2014 disposable incomes, 2012 market incomes; Netherlands, 2014; Sweden, 2013; United Kingdom, 2014; and United States, 2013.

SOURCE: INSEE; Bank of Italy; CBS; Statistics Sweden; ONS; CBO; McKinsey Global Institute analysis

In terms of magnitude, middle-income groups in the United States, the Netherlands, Italy, and the United Kingdom experienced the largest fall in market incomes, of 4 to 10 percent. In France, the market incomes of middle-income groups were flat, while in Sweden they increased.

The picture is more varied at the level of disposable income. Italy was the outlier, as disposable income fell in all quintiles from 2005 to 2014. In the Netherlands, disposable income fell for all but the richest quintile, while in the United Kingdom, disposable income fell for all but the second quintile. In Sweden, real disposable income grew across all income segments, while in the United States it rose for all quintiles except the top one.

Italians' situation actually worsened after government taxes and transfers, with their disposable incomes decreasing an additional 3 to 5 percent. In Sweden, disposable income growth during the second period was very similar to the first period. Transfers reduced the extent of the decline in disposable income of middle-income deciles in the United Kingdom and the Netherlands, although the trend was still down. But in France and the United States, transfers reversed the decline in market incomes, with disposable income for middle-income deciles rising slightly.

POORER THAN THEIR PARENTS: THE DEMOGRAPHICS OF NOT ADVANCING

Our second analysis focused on a microdata set of detailed household income for 350,000 individuals in 155,000 households in three countries where such data were available—France, Italy, and the United States. This enabled us to examine income by age bracket, gender, educational attainment, and marital status. Grouping workers by age and education rather than by income segment revealed that the income from wages of all demographic groups have been flat or falling over the past decade. Young people with low educational attainment and women, single mothers in particular, have been especially affected.

Younger workers have been more vulnerable to the effects of recession and declining income

A disproportionate share of young and less-educated workers have been affected by flat or falling incomes, and the recession and weak recovery also led to persistently high levels of youth unemployment—preventing young people across advanced economies from launching careers. These are the people who are literally at risk of growing up poorer than their parents. Despite a widely held belief in social mobility, it has not had a significant impact in moving people into higher-income deciles (see sidebar, "Social mobility has done little to mitigate increases in inequality in advanced economies").

We analyzed the change in wage income for workers in the three countries segmented by three age groups and levels of education (Exhibit 4).[52] Wage incomes declined for all segments in the 2002–12 period.[53] In all three countries, wage income declines were more severe for less-educated workers, and especially the younger ones. The average decline in the wage income of these young workers ranged from 2 to 27 percent. In Italy, younger people had the largest declines in incomes across all education levels.[54] In all three countries, education for young people was decisive in improving outcomes, with workers

[52] We selected these three variables based on multivariable regressions that included other factors such as location and family status. As in the case of income deciles, this analysis does not take into account movement between segments over time (a worker completing a college degree, for example).

[53] In France, lower educated is lower secondary school diploma or less; medium, secondary school diploma; higher, bachelor's degree or higher. In Italy, lower educated is middle school diploma or less; medium, high school diploma; higher, bachelor's degree or higher. In the United States, lower educated is less than a high school diploma; medium, high school diploma or associate's degree; higher, bachelor's degree, graduate degree, or higher. US data are calculated from 2003 to 2013.

[54] Incomes of young and lower-educated Italians dropped by 30 percent or more, but the sample size was too small to be reliable.

under 30 with high education experiencing half the decline of the least educated workers under 30 in the United States and Italy, and a fifth of the decline in France.

Exhibit 4

Younger and less-educated workers were more likely to face income declines than other types of workers

	Age Years	Share of labor force in age group %	Average change in labor-force members' wage income by age and education attainment level, 2002–12 %		
			Lower educated	Medium educated	Higher educated
France[1]	<30	20	-10	-10	-2
	30–45	39	-7	-10	-6
	>45	41	-3	-9	-3
Italy[2]	<30	16	NA[4]	-27	-21
	30–45	42	NA[4]	-15	-13
	>45	43	-14	-15	-14
United States[3]	<30	24	-15	-14	-6
	30–45	31	-11	-7	-6
	>45	44	-8	-4	-2

1 In France, lower educated is lower secondary school diploma or less; medium, secondary school diploma; higher, bachelor's degree or higher. Incomes in France include self-employment income.
2 In Italy, lower educated is middle school diploma or less; medium, high school diploma; higher, bachelor's degree or higher.
3 In the United States, lower educated is less than a high school diploma; medium, high school diploma or associate's degree; higher, bachelor's degree, graduate degree, or higher; US data compare 2003 to 2013.
4 Sample size too small for reliable measurement.
NOTE: Numbers may not sum due to rounding.

SOURCE: ONS; Bank of Italy; INSEE; US Current Population Survey; McKinsey Global Institute analysis

In instances where incomes fell for highly educated workers, it was mostly due to a decline in hourly wages. For less-educated workers, hours worked and hourly wages both fell. This could imply that more highly educated workers have been taking jobs that did not require their level of skills, while less-educated workers faced difficulties finding any type of work at all. As we will see in Chapter 2, high youth unemployment in the economic downturn that followed the 2008 financial crisis likely aggravated the income declines for young people, especially in Europe.

Women and single mothers are overrepresented in lower income deciles

In all three countries for which we analyzed demographic data, women are overrepresented in lower income deciles. Single mothers are more likely to be in low-income groups, although there is a variance among countries. In the United States, there are 20 times as many single mothers in the lowest income decile as in the highest. In Italy, there are eight times as many single mothers in the lowest-income households as in the highest-income households. For France this number is 11 times. Our microdata for the United States show that single-mother households not only earned less than the average household, but their real household income also declined nearly one percentage point faster than for all other households in the decade from 2003 to 2013. By contrast, single fathers in France were about as likely to be in the lowest-income households as in the highest-income households, while in Italy they were five times as likely to be in the lowest-income category and in the United States they were four times as likely.

In Europe, the share of single mothers in the population has stabilized, but in the United States it continues to rise. A recent McKinsey study found that single motherhood is prevalent across all 50 states and can often trap women in a cycle of low opportunity—they drop out of school earlier and, with limited access to child care, have little chance to improve their skills and raise their income.[55]

[55] *The power of parity: Advancing women's equality in the United States*, McKinsey Global Institute, April 2016.

Social mobility has done little to mitigate increases in inequality in advanced economies

To track social mobility—how individuals or households, rather than population or demographic groups are moving up or down economically compared to previous generations—requires longitudinal studies.[1]

Overall, the research indicates that social mobility is limited and has changed slowly, if at all, in advanced economies. In countries where social mobility is low, it tends to remain low. In the United States, a child born to parents in the bottom fifth of the income distribution in 1986 had only a 9 percent chance of making it into the top fifth as an adult—the same chance as a child born in 1971.[2] Studies in the United States found no difference in individual mobility between two periods—1987 to 1996 and 1996 to 2005—despite the increase in income inequality in the second period.[3]

Access to education is a crucial factor to increase social mobility. Across advanced economies, children of college-educated parents have a considerably higher chance of completing college.[4] In all OECD countries, children from more advantaged socioeconomic backgrounds perform the equivalent of one school year ahead than their less advantaged peers. Policy options to address this inequity range from targeting interventions at schools with high levels of socioeconomically disadvantaged students, to adapting curricula for disadvantaged students, and adding funding or teaching aimed at these students.[5]

Researchers in the United States have also found that social mobility is higher in geographical areas where companies file more patents and where scientists publish more high-quality papers than in geographical areas with fewer patents and high-quality papers. While this innovation may end up driving an increase in the top 1 percent income share, over the long term, those in lower income segments have the opportunity to catch up because of the creation of new firms and added employment opportunities. Residents of innovative cities such as San Francisco or New York are therefore more likely to move up in the income distribution over the course of their lifetimes than residents of less innovative cities.[6]

1 Examples of longitudinal studies that enable research on social mobility include, among others, the Panel Study of Income dynamics by the University of Michigan for the United States, the Office for National Statistics Longitudinal Study for the United Kingdom, and the EU Statistics on Income and Living Conditions.

2 Raj Chetty et al., *Is the United States still a land of opportunity? Recent trends in intergenerational mobility*, NBER working paper No. 19844, January 2014.

3 US Department of the Treasury, *Income mobility in the U.S. from 1996 to 2005*, 2007, and Gerald Auten and Geoffrey Gee, "Income mobility in the United States: New evidence from income tax data," *National Tax Journal,* volume 62, number 2, June 2009.

4 Anna C. D'Addio, *Intergenerational transmission of disadvantage: Mobility or immobility across generations?* OECD Social, Employment and Migration Working Papers, No. 52, 2007.

5 OECD, *PISA 2012 results: Excellence through equity: Giving every student the chance to succeed (Volume II)*, 2013.

6 Philippe Aghion et al., *Innovation and top income inequality*, CEPR discussion paper number 10659, June 2015.

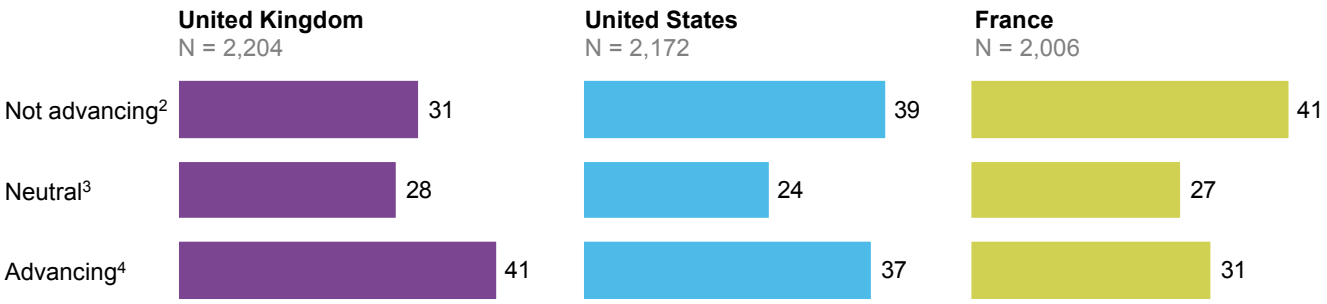
GROWING PERCEPTIONS AMONG CITIZENS OF NOT ADVANCING

To test our data findings, we conducted a survey in France, the United Kingdom, and the United States that asked how people felt about the evolution of their income. The survey was conducted in mid-2015 (Exhibit 5).[56] We asked people whether they agreed or disagreed with statements such as "My financial position is worse than it was five years ago," "My financial position has improved, but less than that of my peers in the last five years," "I am advancing faster than my friends and neighbors," and "My financial position is worse than my parents' when they were my age." The answers varied by country but overall there was an even split, with 30 to 40 percent saying their incomes were not advancing, and the same proportion saying their incomes had advanced. The remaining 20 to 30 percent did not feel strongly either way about their income. (We refer to this group in the exhibits as "neutral.")

Exhibit 5

In our survey, 30–40 percent of respondents said their incomes were not advancing

Share of respondents per category (self-identified)
Weighted % in category[1]



1 Weights rebase sample distribution to match distribution of disposable incomes.
2 Those who (strongly) agree with at least one of the following two statements "My financial position is worse than it was five years ago" or "My financial position is worse than my parents' when they were my age."
3 Those who either somewhat agree or somewhat disagree with both the statements "My financial position is worse than it was five years ago" or "My financial position is worse than my parents' when they were my age."
4 Those who (strongly) disagree with at least one of the statements "My financial position is worse than it was five years ago" or "My financial position is worse than my parents' when they were my age" and did not (strongly) disagree with either of those statements.

SOURCE: McKinsey Global Institute survey on income inequality, 2015; McKinsey Global Institute analysis

1 IN 3
respondents who feel they are not advancing expect their children will advance more slowly in the future than their generation

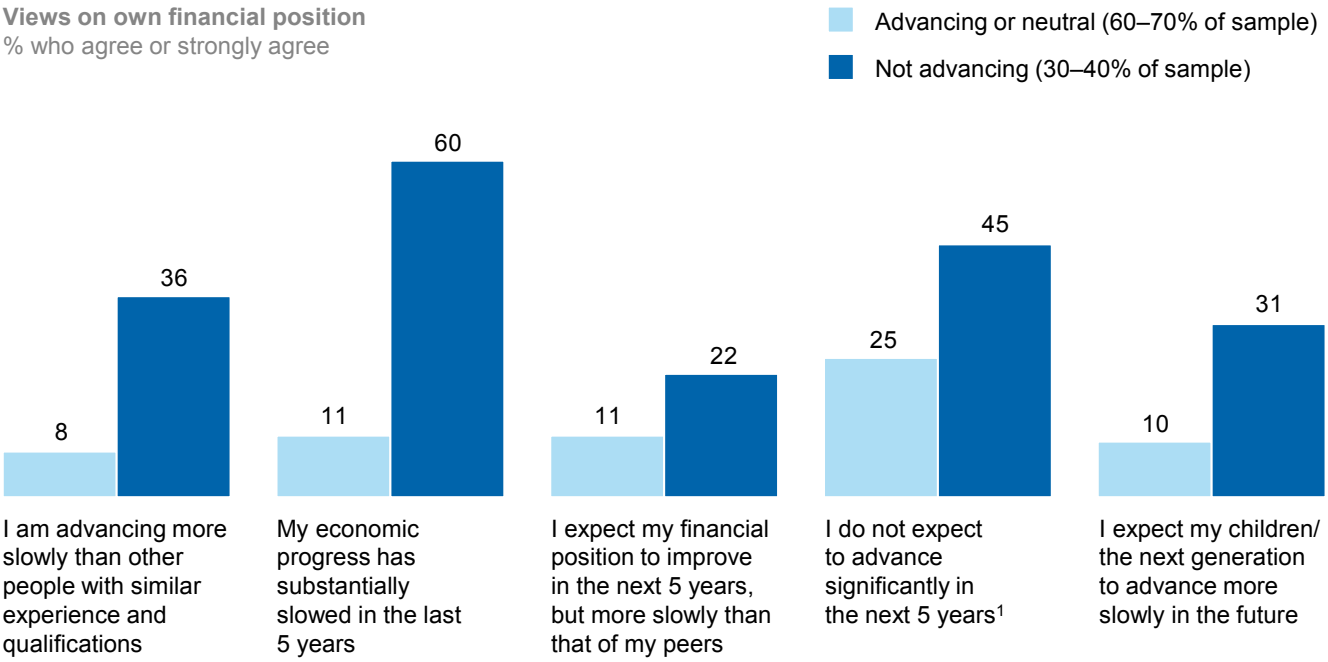
The 30 to 40 percent who felt they were not advancing held more pessimistic views about their futures and the futures of their children than those who felt they were advancing (Exhibit 6). Nearly half of those not advancing expected not to advance in the future, compared with just one-quarter of those who felt they were advancing. One in three of those not advancing also expected their children to advance more slowly in the future than their own generation. That is three times the proportion of those who felt they were advancing, or those who were neutral.

In our survey, younger people tend to be more optimistic than older generations. More than one-third of respondents younger than 35 agreed or strongly agreed with the statement, "I expect to advance significantly in the next five years." By contrast, only 11 percent of people 35 and over agreed or strongly agreed with that assertion. In other words, 89 percent of members of these older generations are considerably more pessimistic about advancing in the future. This may be due a broad expectation among young people entering the workforce that their incomes will increase as their careers advance.

[56] Surveys were conducted online in August 2015 in the United Kingdom and the United States and in September 2015 in France, with representative samples of about 2,000 respondents in each country. For more detail about the survey methodology, see the technical appendix.

Exhibit 6

Respondents who were not advancing were most pessimistic about their future and the future of their children


Views on own financial position
% who agree or strongly agree
Advancing or neutral (60–70% of sample)
Not advancing (30–40% of sample)
8
36
I am advancing more slowly than other people with similar experience and qualifications
11
60
My economic progress has substantially slowed in the last 5 years
11
22
I expect my financial position to improve in the next 5 years, but more slowly than that of my peers
25
45
I do not expect to advance significantly in the next 5 years[1]
10
31
I expect my children/ the next generation to advance more slowly in the future

1 Percentage of people who strongly disagreed or disagreed with the positively framed statement, "I expect to advance significantly in the next five years."

SOURCE: McKinsey Global Institute survey on income inequality (2015) results for United States, France, and United Kingdom, about 2,000 respondents per country; McKinsey Global Institute analysis

FLAT OR FALLING INCOMES COULD HAVE ECONOMIC AND SOCIAL CONSEQUENCES

A sustained period of flat or falling incomes could have far-reaching effects on economic growth and government budgets. If the disconnect between GDP growth and income growth creates the possibility that people in the next generation might have a greater chance of growing up to be poorer than their parents, it would also confound widely held expectations of advancement. That in turn could stoke social and political disgruntlement and feelings of alienation from, or hostility toward, some aspects of the global economic system.

Lack of income advancement could hamper growth

In terms of economic impact, we identify several possible negative effects, starting with slower economic growth and including limitations on government's ability to fund operations and social spending because of falling tax receipts. In general, disposable income is an essential driver of economic growth; final household consumption supplies about two-thirds of total demand in the United States and 45 to 65 percent of demand across Europe.[57] Rising incomes also translate into higher government revenue, from direct and indirect taxes.

Low- and middle-income households spend more of their incomes than wealthy households, and when their incomes stagnate or fall, this can affect aggregate demand and economic growth.[58] In 2015, the OECD estimated that growth was reduced by as much as five percentage points across advanced economies from 1990 to 2010 because of weak

57 World Bank World Development Indicators, 2014.

58 Wealthier households have a lower marginal propensity to consume. For a discussion of this phenomenon and its effect on growth, see *A window of opportunity for Europe*, McKinsey Global Institute, June 2015.

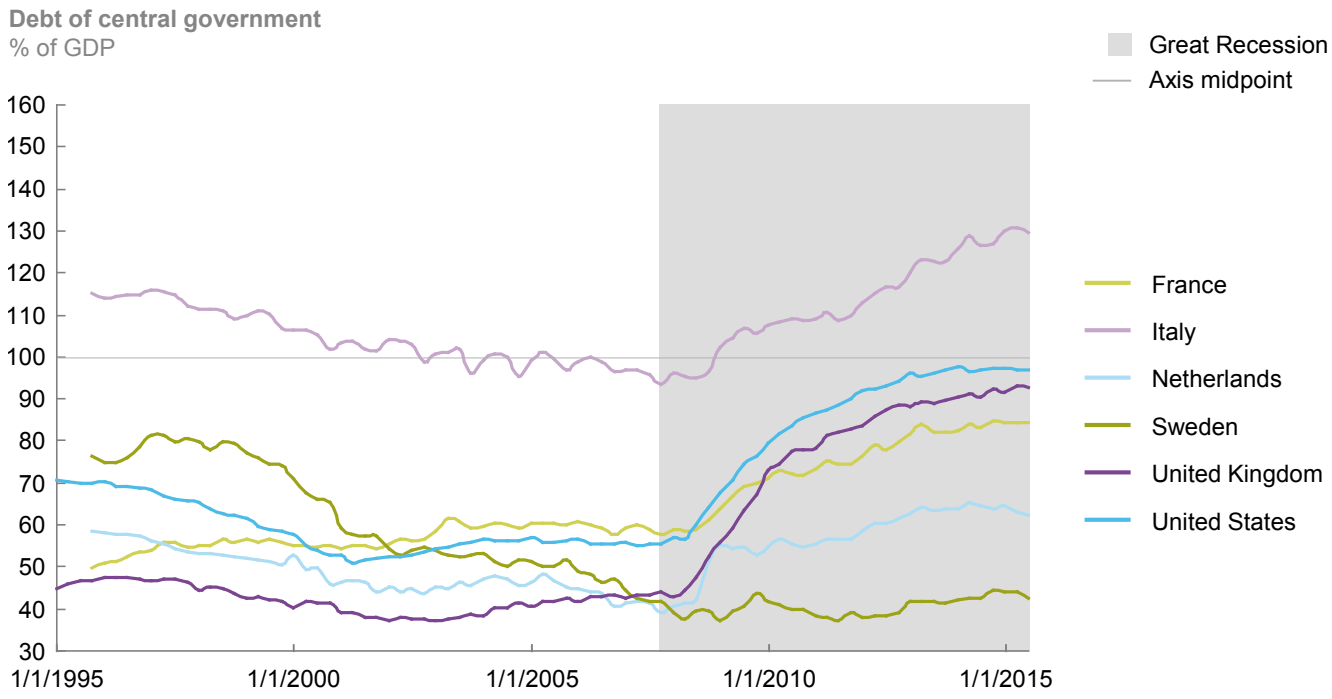
income growth for the bottom 40 percent of the population and its effects on the rest of the economy.[59]

If market incomes continue to decline for large segments of the population, governments could be under pressure to maintain disposable income growth by increasing transfers and reducing taxes. However, countries that are still struggling with slow growth and high public expenditure would have limited capacity to fund higher transfer payments or large tax cuts—particularly when aging places additional demands on public services. Stagnant or falling wage incomes could reduce income tax receipts, exacerbating the considerable fiscal challenges that many advanced economies already face, with government debt as a share of GDP increasing steadily over the past seven years in five of the six countries we studied.

Even maintaining current levels of taxes and transfers could become more challenging. For example, central government debt is close to 100 percent of GDP or higher in Italy, the United Kingdom, and the United States, where it rose from 56 percent of GDP in 2005 to 97 percent of GDP in 2016 (Exhibit 7). Sweden is the outlier with a relatively flat debt share of GDP between 2008 and 2015; while it increased debt levels to fund the effects of recession, it started from a lower level, of less than 40 percent in 2008, which gave it greater freedom to spend during the crisis. In 2015, Sweden's central government debt remained steady at about 42 percent of GDP.

Exhibit 7

Government debt rose sharply in all countries except Sweden during and after the 2008 financial crisis



SOURCE: OECD; McKinsey Global Institute analysis

[59] *In it together: Why less inequality benefits all*, OECD, 2015.

Stagnant incomes could also undermine the financial viability of existing government programs. Many programs and public investments are predicated on the assumption of rising incomes. Public pension systems, for instance, assume rising payments by current workers to help support retirees.[60] And economic assessments for major infrastructure projects typically assume that future taxpayers will have higher incomes.[61] If future generations are, indeed, poorer than their parents, these long-standing assumptions about funding public expenditures would need to be revised and assumptions about intergenerational trade-offs would need to be updated.[62]

Political tensions around trade and immigration

Stagnating or falling incomes also have non-economic effects, even in countries where poverty is not a widespread issue. Researchers have linked income inequality to elevated levels of social and political instability in both advanced and developing economies.[63] Some studies have examined the complex link between income and happiness or well-being. Another study concludes that a reduction in income has a strong effect on a person's sense of well-being, although the effects are usually not permanent.[64]

Our citizen survey tested not just feelings about personal income advancement, but also the expectations of respondents about advancement in the future for their children and the next generation, and whether those feelings might color views on aspects of the global economic architecture. While two-thirds of those who were not advancing believed that things would improve for their children and the next generation, the remaining one-third saw slow income growth as a persistent problem that would plague the next generation.

The people who felt they were not advancing and believed this was a persistent problem expressed sharply negative views of foreign trade and immigration. They were nearly twice as likely to believe that "Legal immigrants are ruining the culture and cohesiveness of our society" as those who were advancing or neutral, and one-and-a-half times as likely as those who were not advancing but hopeful about the future. Nearly 70 percent of them also agreed with the statement "Cheaper foreign labor is creating unfair competition to our domestic businesses," compared with 43 percent of those who were advancing or neutral. Fifty-six percent of them also believed that "The influx of foreign goods and services is leading to domestic job losses," compared with 29 percent of the advancing or neutral respondents and 41 percent of those who were not advancing but hopeful about the future (Exhibit 8).

By implication, failure to correct flat or falling incomes could lead to a rise in the number of people who see flat or falling incomes as a persistent problem and lose faith in tenets of the global economic architecture. Our survey found that those who were not advancing and not hopeful about the future were more likely than those who were advancing to support nationalist sentiment, including opposition to the European Union, as reflected in the June 2016 UK referendum, or, in France, support for the anti-immigrant National Front party.

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60 For example, the CBO's budget outlook relies on the assumption of steadily rising average real wages for workers covered by social security in the United States. See Congressional Budget Office, *2015 long-term budget outlook*, June 2015.

61 For instance, a cost-benefit analysis for the ten-year, $5.6 billion Dulles Metrorail project in the United States, calculates the value of reduced travel times based on an assumption of rising hourly wages. See Lauren Donnelly, "Dulles Corridor Metrorail project. A cost-benefit analysis," *Policy Perspectives*, volume 16, May 2009.

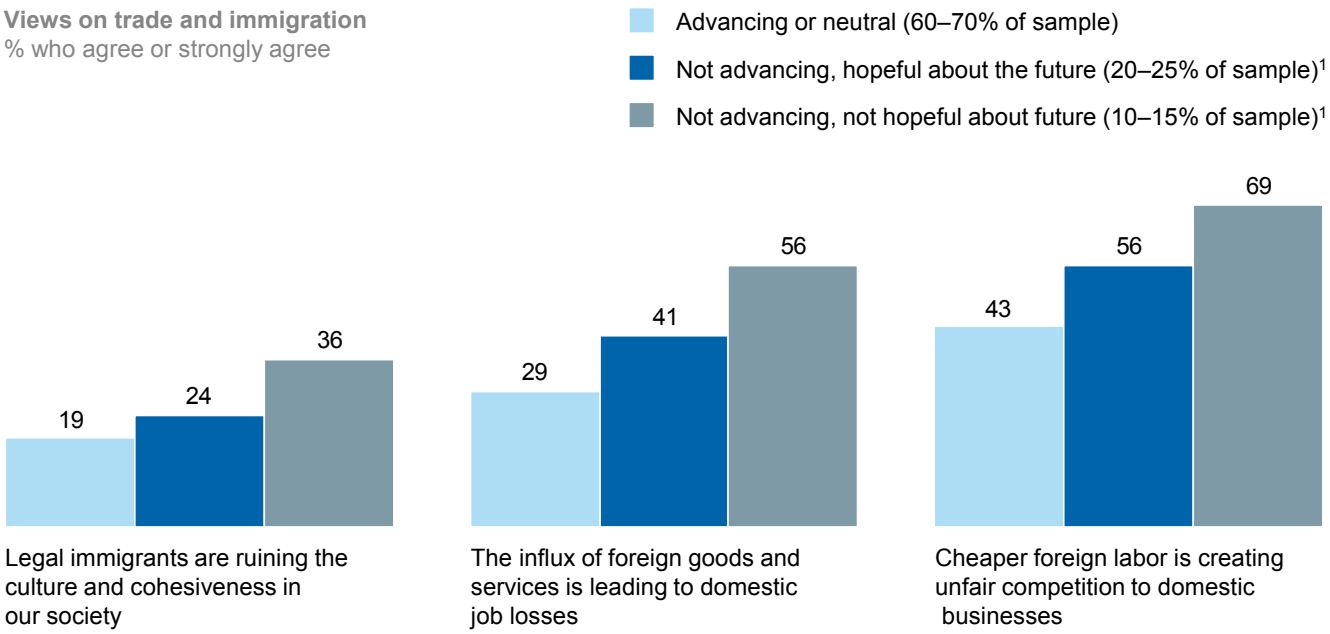
62 Anthony B. Atkinson, *Inequality: What can be done?* Harvard University Press, 2015.

63 See, for example, Alberto Alesina and Roberto Perotti, "Income distribution, political instability, and investment," *European Economic Review*, volume 40, number 6, 1996.

64 Rafael Di Tella, John Haisken-De New, and Robert MacCulloch, "Happiness adaptation to income and to status in an individual panel," *Journal of Economic Behavior and Organization,* volume 76, issue 3, 2010.

Exhibit 8

Respondents who were not advancing and not hopeful about the future (10–15 percent of the sample) held strong negative attitudes about immigration and free trade


Views on trade and immigration
% who agree or strongly agree
Advancing or neutral (60–70% of sample)
Not advancing, hopeful about the future (20–25% of sample)1
Not advancing, not hopeful about future (10–15% of sample)1
19
24
36
29
41
56
43
56
69
Legal immigrants are ruining the culture and cohesiveness in our society
The influx of foreign goods and services is leading to domestic job losses
Cheaper foreign labor is creating unfair competition to domestic businesses

1 Respondents that agreed or strongly agreed with the statement, "My non-adult children/the next generation will advance more slowly in the future" were counted as those who were not advancing and not hopeful about the future. All other respondents who were not advancing were counted in the group that was not advancing but hopeful about the future.

SOURCE: McKinsey Global Institute survey on income inequality (2015) results for United States, France, and United Kingdom, about 2,000 respondents per country; McKinsey Global Institute analysis

•••

Analysis of income segments in advanced economies shows that about two-thirds experienced flat or falling incomes in the 2005–14 period. Middle- and low-income households were among the most affected, as were young people with low educational attainment and single mothers. Declining household incomes could have multiple adverse economic and societal consequences, affecting demand for government services and public-sector spending. Why did income advancement suddenly grind to a halt? In Chapter 2 we analyze the causes of this phenomenon and whether it is likely to continue.

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2. WHY INCOMES STOPPED RISING

The recession that followed the 2008 financial crisis was one of the deepest and longest-lasting of the post-World War II era, and the recovery that followed it has been unusually slow and sluggish in many advanced economies, especially in Western Europe (Exhibit 9). The downturn was the single biggest factor affecting incomes in the 2005–14 period. But it does not tell the entire story. It does not explain, for example, why incomes have been stagnant or have fallen for more than half the population in countries where GDP growth resumed, albeit weakly; why Sweden bucked the trend and saw an increase in market incomes for the middle quintile of households; and why disposable income in the United States rose sharply for households in the bottom quintile in 2005–14 even as it dropped for those in the top quintile.

To understand the causes of the flat or falling income phenomenon, we constructed an analytical framework of five factors that broadly contribute to the rise or fall of incomes. An essential factor is aggregate demand, which dictates not only productivity growth, but also employment and labor-force participation. However, demographic factors including the changing size of households also play a significant role, as do labor-market factors such as the smaller wage share of GDP. Capital income has a role to play, too, although for our analysis it is less prominent a factor than for other perspectives on income inequality. Government taxes and transfers comprise the final factor. As we shall see, they can make a decisive difference in the way market income feeds through into disposable income.

Demographic factors including the changing size of households and labor-market factors such as the smaller wage share of GDP play a significant role, alongside aggregate demand.

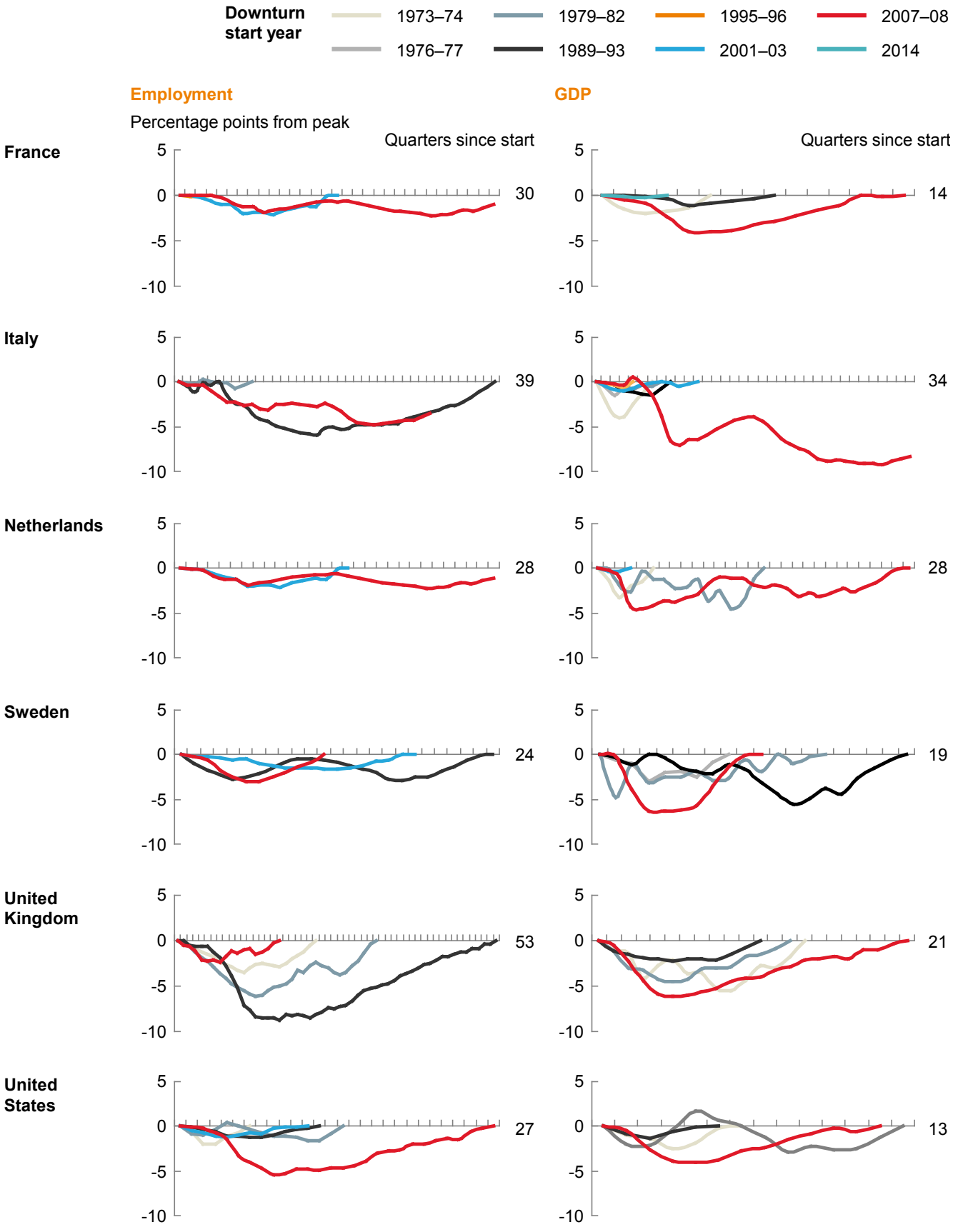
We use this framework to analyze the underlying causes of the flat or falling trend of the past decade, and we also use it to construct several hypotheses for future income developments. This forward look underscores the importance of factors other than aggregate demand. Our hypotheses suggest that unless economic growth gains force in major advanced economies over the next decade, the proportion of households in income segments that will be flat or falling could increase beyond the current 65 to 70 percent. And even under the best-case scenario we construct, the proportion of income segments that are not advancing relative to segments in the same position today remains higher than it was in the 1993–2005 period.

For our analysis in this chapter, we focused mainly on the patterns of median market and median disposable incomes for two periods—1993 to 2005 and 2005 to 2014. We pay particular attention to income changes for middle-income households because they are representative of the overall flat or falling income trend in most countries, with the singular exception of Sweden.

Exhibit 9

In most economies, the recession following the 2008 financial crisis was deeper and longer than previous downturns

Employment and GDP recession and recovery periods over time



SOURCE: OECD; McKinsey Global Institute analysis

FIVE FACTORS THAT DETERMINE THE TRAJECTORY OF INCOMES

For our analysis of the causes of the abrupt halt in income advancement for so many households, in our six focus countries, especially in median income groups, we have identified the following five principal factors. While the factors are comprehensive, the underlying causes of them may not be, although we seek to identify the leading ones.

Aggregate demand factors. In prior MGI work, we examined the interplay of productivity growth and labor growth as the drivers of global GDP.[65] This interplay is reflected in incomes. When aggregate demand grows, employment, labor-force participation, and output per worker also increase, enabling incomes to rise. Conversely, lower labor-force participation rates, rising unemployment, and waning productivity (output per work) can all lead to stagnating or falling incomes. Unemployment in particular can have a rapid effect on household income.

Demographic factors. Households are shrinking as a result of changing family structures and lower fertility rates, and the number of working-age adults per household is also changing, in part because of aging. These two long-run demographic factors have had a significant influence on household incomes in the past two decades, especially in Europe, and will continue to do so in the future.

Labor-market factors. In the past two decades, the changing nature of the labor market, including the evolving pattern in labor supply and demand, has played an especially important role in income developments in the United States. There are two principal labor-market factors: the wage share of GDP, and the amount of that overall wage share that goes to the different income segments of the population. Our focus on median incomes highlights the effects of higher income gains at the top and negligible income gains or declines for low- and middle-income workers. These changes are influenced by a range of workplace developments including the rise of automation, the development by companies of extensive supply chains that tap into a global pool of low-cost labor, and the share of part-time and temporary work, which is often less well paid proportionately than permanent or full-time work.

Labor-market factors are influenced by a range of workplace developments including the rise of automation and the share of part-time and temporary work.

Capital income factors. These are relevant for market incomes and can include capital gains from asset sales, interest and dividends from investments, rental income, income from business, or income received from pension plans. In this report we do not discuss capital income effects in detail as we found they had little effect on the income of median income groups, many of which do not have significant capital income and depend largely on wages. Nonetheless, capital income effects can affect median income groups both directly and indirectly. Prior MGI research has found that returns on US and Western European equity and fixed income between 1985 and 2014 were significantly above the long-run average and could be lower in the next two decades. A long-term change in investment returns could put new pressures on household incomes if it led to a reduction in public and private pensions. People would have to save more for retirement, retire later, or reduce their consumption.[66]

[65] *Global growth: Can productivity save the day in an aging world?* McKinsey Global Institute, January 2015.

[66] *Diminishing returns: Why investors may need to lower their expectations*, McKinsey Global Institute, May 2016.

Taxes and transfer factors. Taxes and government transfers determine the difference between market income and disposable income. Transfers include a range of cash payments to beneficiaries such as social security payments, disability or workers' compensation, and unemployment benefits.[67] Taxes generally include central and local government taxes.[68]

The first three of these five factors contribute to changes in labor income. Changes in market income are driven by changes in this labor income, together with changes in capital income. Once taxes and transfers are applied to market income, it becomes disposable income. What role these factors played in the post-2005 flat or falling income phenomenon that we have outlined above, and what role they could play in the future, will be considered in the rest of this chapter. In Exhibit 10, we show how each of the five factors contributed to the development of median household income in the most recent 2005–14 period and in 1993–2005.

RECESSION AND SLOW RECOVERY HAD A STRONGLY NEGATIVE EFFECT ON MEDIAN INCOMES FROM 2005 TO 2014

The global financial crisis that broke in late 2007 and then accelerated in the fall of 2008 with banking collapses around the world ushered in one of the deepest recessions in modern times, and numerous economies including some of our six focus countries continue to bear the scars almost a decade later. The combination of sharp downturn and sluggish recovery made a big dent in income growth in the six economies, not least because it led to a rise in unemployment in several of them. Over the 2005–14 period as a whole, however, aggregate demand nonetheless was a positive force for market income growth in five of the countries, the exception being Italy where it declined. Before the recession, GDP growth contributed about 19 percentage points to median household income growth in the United States and 17 percentage points in the five European countries in aggregate. In the seven years after the recession, that income growth impact fell to four percentage points in the United States and in Europe.

In general, until the 2008 financial crisis, household income growth tracked economic growth and productivity: incomes rose along with rising output per worker. From 1993 to 2005, a period of steady growth with one relatively mild recession, output per worker grew at rates ranging from 1.4 percent per year in Italy to 2.9 percent per year in Sweden. In this period, the disposable income of all income groups advanced.

With the global financial crisis and its aftermath, that changed dramatically. From 2005 to 2014, output plunged, as did output per worker.[69] This period starts with the tail end of the pre-crisis boom and includes both the global recession and the years of at-best weak recovery. Exhibit 11 shows the trajectory of per capita GDP before, during, and after the financial crisis and recession in each of our six focus countries—and how the proportion of flat or falling incomes among income groups rose sharply during this period.

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67 In-kind transfers such as the Supplemental Nutrition Assistance Program, Medicare, and Medicaid are counted for the United States but not for the other five countries due to a lack of available data by income segment.

68 In France, we include personal income taxes, housing taxes, and other social contributions. In Italy, we include all income taxes, municipal taxes (such as waste and water tax), and corporate income taxes. In the Netherlands, we include income taxes (and wealth tax until 2001) and dividend taxes. In Sweden, we include federal, local, and municipal taxes such as property taxes. In the United Kingdom, we do not include value-added taxes (VAT) in order to make our UK data comparable to the other European countries and the United States. VAT data are not available in any of the other European countries. In the United States we use CBO data that include only federal taxes until 2013. In our analysis that extends this time period to 2014 using Current Employment Statistics data, we also include state and local taxes (which account for about 6 percent of market income for the middle quintile of households).

69 The end date of our period varies slightly from country to country in our analysis, depending on data availability.

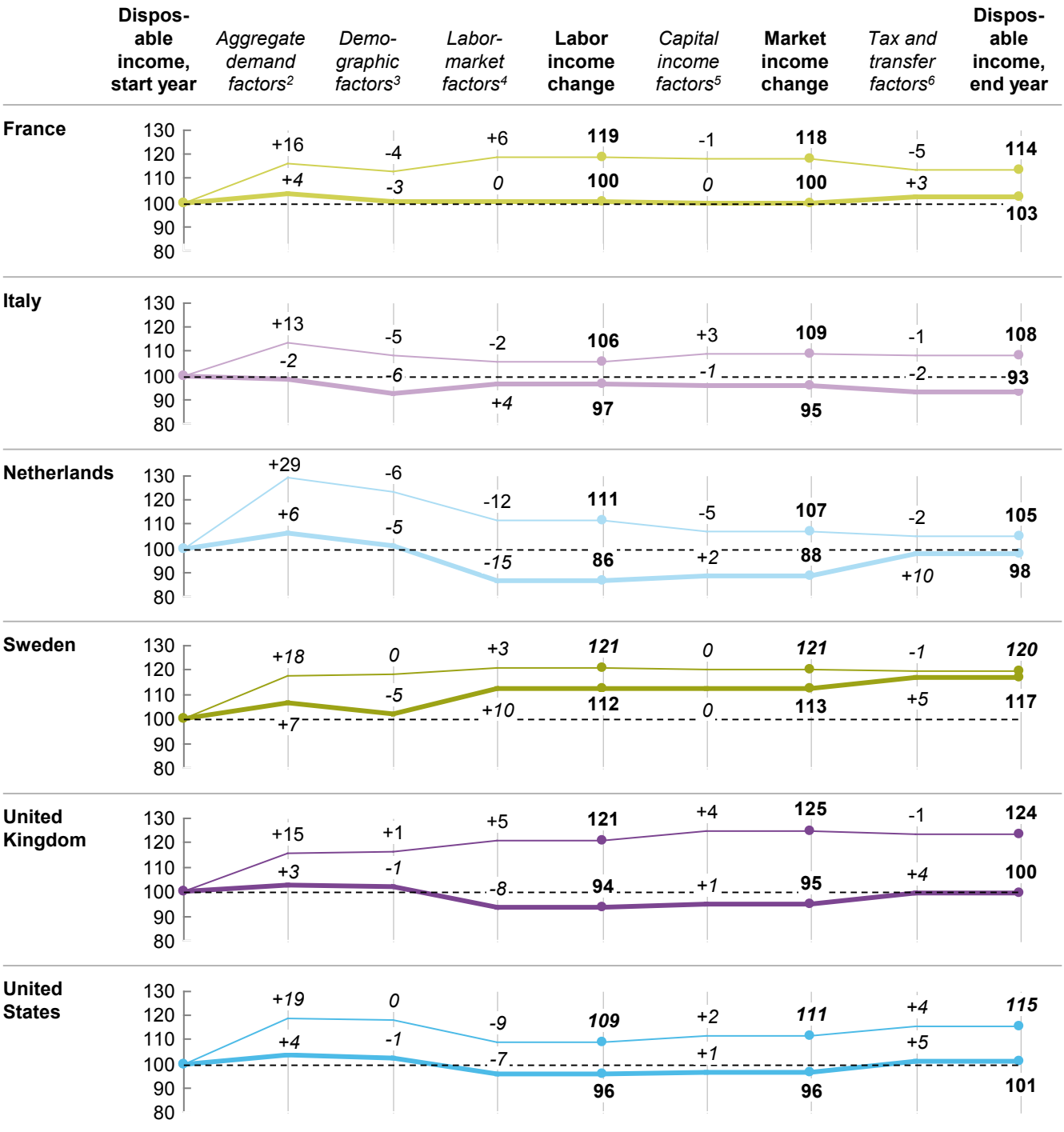
Exhibit 10

Five factors determine changes in disposable income

Change in disposable income for middle-income households, 1993–2005 and 2005–14[1]
%

1993–2005
2005–14

Bold text = Total
Italic text = Change

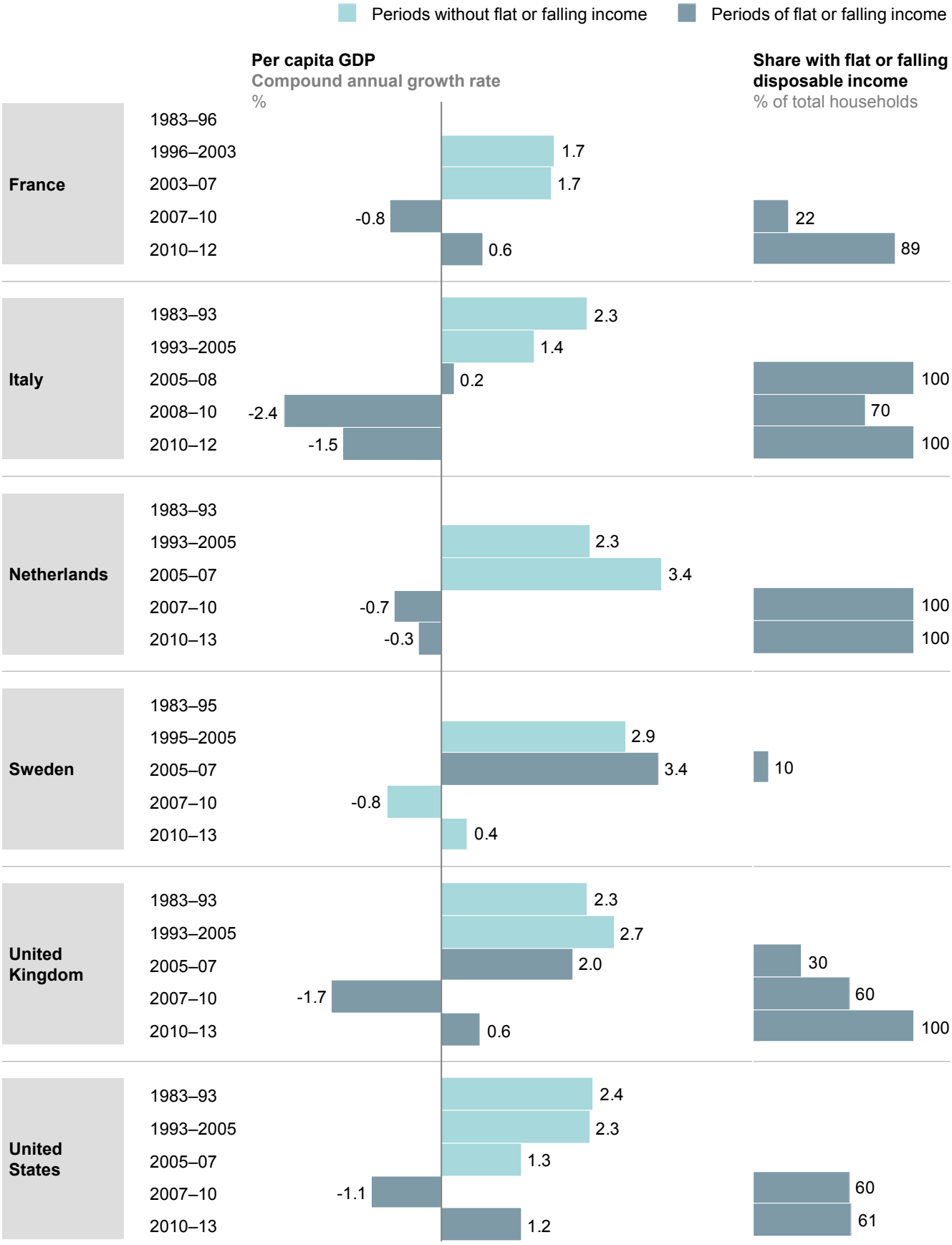

Disposable income, start year
Aggregate demand factors2
Demographic factors3
Labor-market factors4
Labor income change
Capital income factors5
Market income change
Tax and transfer factors6
Disposable income, end year
France
+16 -4 +6 119 -1 118 -5 114
+4 -3 0 100 0 100 +3 103
Italy
+13 -5 -2 106 +3 109 -1 108
-2 -6 +4 97 -1 95 -2 93
Netherlands
+29 -6 -12 111 -5 107 -2 105
+6 -5 -15 86 +2 88 +10 98
Sweden
+18 0 +3 121 0 121 -1 120
+7 -5 +10 112 0 113 +5 117
United Kingdom
+15 +1 +5 121 +4 125 -1 124
+3 -1 -8 94 +1 95 +4 100
United States
+19 0 -9 109 +2 111 +4 115
+4 -1 -7 96 +1 96 +5 101
130
120
110
100
90
80

1 Middle-income, or median, households are households in the middle (3rd) quintile or the 5th and 6th decile or the 40th to the 59th percentile. For each country we use the latest data available—France (2012), Italy (2012), the Netherlands (2014), Sweden (2013), United Kingdom (2014), and United States (2013). The base year for France is 1996 and for Sweden is 1995. All growth numbers are standardized to make results comparable.
2 Change in aggregate output, measured by output per employed worker, multiplied by change in number of employed workers in the working-age population.
3 Change in number of working-age people per household.
4 Change in wage share of GDP, adjusted for difference between consumer price inflation and inflation of overall output, and median household share of wages.
5 Includes profit from own business, income from capital, and other sources of market incomes that cannot be classified as income from labor.
6 Includes income from private and public pension transfers, other transfers such as social security benefits, and taxes on labor income and capital income.
NOTE: Numbers may not sum due to rounding.

SOURCE: INSEE; Bank of Italy; CBS; Statistics Sweden; ONS; CBO; McKinsey Global Institute analysis

Exhibit 11

Flat or falling incomes spread during the recession and the weak recovery



SOURCE: INSEE; Bank of Italy; CBS; Statistics Sweden; ONS; CBO; OECD; McKinsey Global Institute analysis

Before the recession, GDP growth contributed about 19 percentage points to median household income growth in the United States and 17 points in Europe. In the seven years after the recession, that fell to four percentage points in both the United States and Europe.

The effects of slow growth on output and employment varied across economies. Percentage-wise, the impact on growth was least severe in the United States, with negative growth lasting five quarters and reducing GDP by 3.4 percent from peak to trough from 2008 to 2009. Italy fared the worst and continues to feel the effects, suffering a "quadruple-dip" recession between 2007 and 2015, which reduced output by 12.2 percent.

The recovery has been slow and uneven, particularly in Europe. Where growth has returned, it has largely been a jobless recovery. This means that there is a long gap between when GDP rebounds to the pre-recession level and when all the jobs that were lost in the downturn are replaced.[70] At the end of 2015, eight years after the recession began, GDP per capita had not reached pre-recession levels in Italy and the Netherlands, but it had recovered in the other three European economies and the United States. In the United States, GDP rose 2.1 percent per year and GDP per capita rose 1.3 percent annually from 2009 to 2015, compared with 0.9 percent across the EU during the same period.[71] However, even as US GDP per capita growth rebounded and the US unemployment rate returned to its pre-crisis level in 2015, median market incomes remained almost flat between 2010 and 2013.

The impact on employment has been different on either side of the Atlantic. In the United States, the unemployment rate jumped from less than 5 percent in 2007 to nearly 10 percent in 2009. In the European economies, the rise in unemployment was slower but longer lasting. It continued to rise, especially after the double-dip recession in 2012 that coincided with the Eurozone's sovereign debt crisis. In the Netherlands, unemployment was 3 percent in 2008, but did not peak until 2014, at nearly 8 percent. In Italy, unemployment peaked at 12.9 percent in late 2014, while in France unemployment reached a high of 10.5 percent in the third quarter of 2015. The United Kingdom, like the United States, has returned to the pre-recession unemployment rate.[72] Even so, US wage growth has been limited and only recently has the labor-force participation rate risen to near the pre-recession level as discouraged workers have started to reenter the labor force.

Exhibit 12 shows the trend in incomes through different periods of the recession and slow recovery in the six economies. Real median market incomes and real median disposable incomes both fell in most countries. From 2005 to 2014, median market incomes fell in Italy, the Netherlands, the United Kingdom, and the United States. Median market income was flat in France, and grew strongly only in Sweden, where the government responded to the recession with particularly aggressive measures to preserve employment.

[70] See *An economy that works: Job creation and America's future,* McKinsey Global Institute, June 2011.

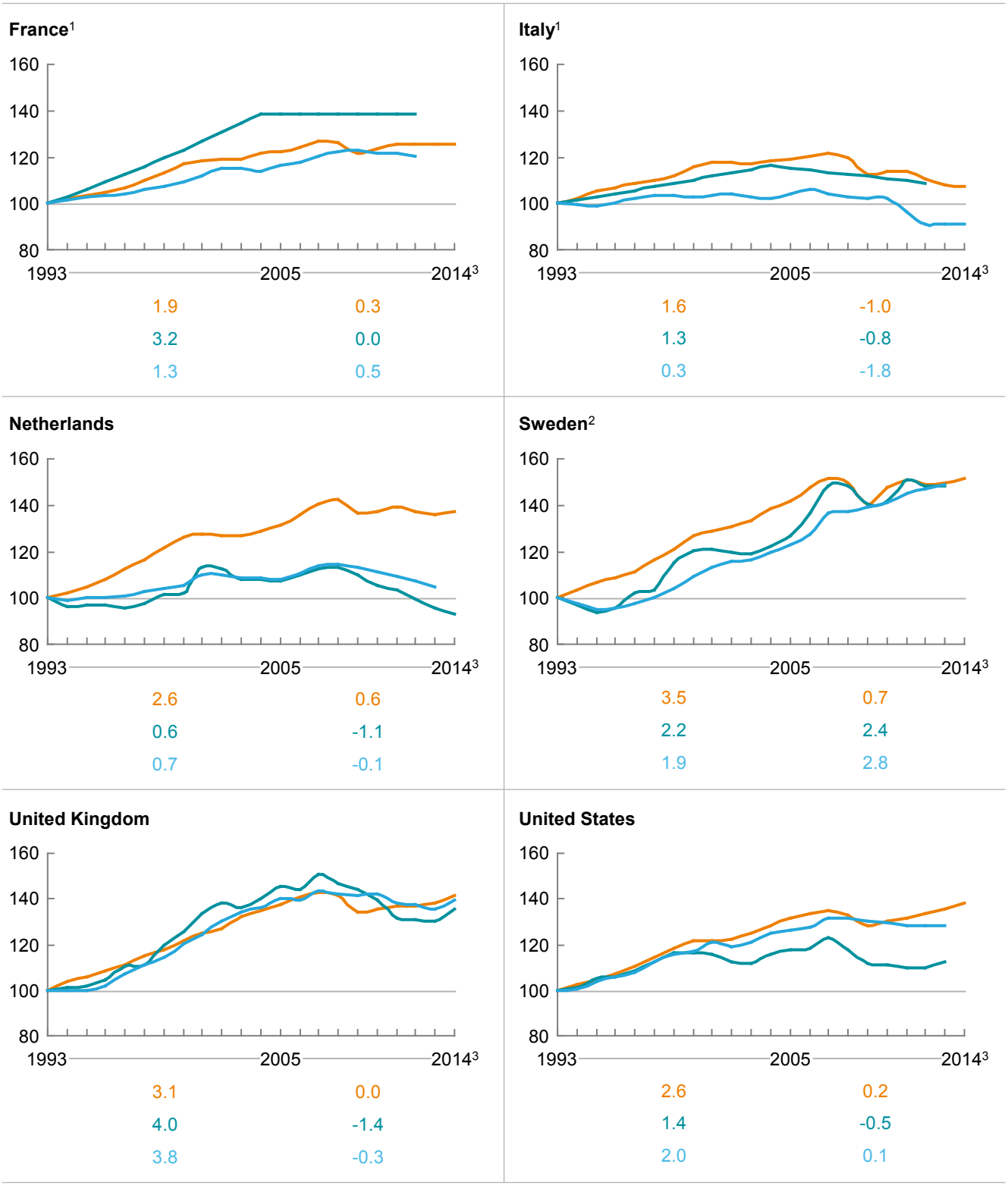
[71] GDP per capita increase calculated by comparing Q4 to Q4.

[72] OECD labor database, harmonized unemployment measured quarterly.

Exhibit 12

Income growth followed GDP down, but did not necessarily recover when GDP recovered

GDP per capita, **median market income**, **median disposable income** (Index: 100 = 1993)
Compound annual growth rate, 1993–2005, 2005–14 (%)



1 Market incomes are calculated only for the beginning and end of periods; graphs show a smoothed curve across these three data points.
2 1993 is estimated by taking average of 1991 and 1995 data; all years are available after 1995.
3 Latest data available ranges from 2012 to 2014.

SOURCE: INSEE; Bank of Italy; CBS; Statistics Sweden; ONS; CBO; OECD; US Bureau of Labor Statistics; McKinsey Global Institute analysis

40%
Youth unemployment in Italy in 2015

Unemployment has been a significant factor for young people, whose incomes have been particularly affected, as we saw in the previous chapter. This is especially the case in Europe, where the unemployment rate among workers aged 15 to 24 rose to 20 percent in 2015, more than twice the overall unemployment rate (9.4 percent), and sharply above the 16 percent rate in 2007. Youth unemployment soared to 40 percent in Italy in 2015, up from 21 percent in 2008, and stood at nearly 25 percent in France and 20 percent in Sweden, according to OECD data.

Differences in labor markets and education systems may explain much of the variation in youth unemployment among countries. Higher employment protection can lead to low turnover of older workers and higher youth unemployment. For example, in Italy, income support programs for permanent workers meant that employers hired fewer young workers in the recession following the 2008 financial crisis, an effect compounded by a 2012 pension reform that kept older workers in the workforce.[73] However, a review of OECD countries found no systemic effect of increase in overall unemployment from higher employment protection.[74] The impact of employment protection is likely compounded by other institutional factors that contribute to labor-market rigidity. For instance, youth unemployment is also higher where the education system is disconnected from the labor market and produces too many university graduates qualified for the public sector and too few skilled tradespeople.[75] Where educators work with employers, as in Germany, youth unemployment is considerably lower than European Union averages. We discuss some of these issues later in this chapter and in Chapter 3.

DEMOGRAPHIC FACTORS HAVE REDUCED HOUSEHOLD SIZES AND THE NUMBER OF WORKING-AGE PEOPLE PER HOUSEHOLD, DAMPENING INCOME GROWTH

Demographic changes have affected incomes in two ways: a decline in the number of working-age adults per household has reduced the total income earned by household members, and shrinking household size has limited the economies of scale that can be gained from sharing resources. These factors have had a significant influence on flat or falling household incomes. In all countries we studied in depth, both household size and the average number of employed people per household have been declining since 1993, due to demographic trends including aging, falling fertility rates, more young adults and seniors forming their own households, rising divorce rates, more singles, and more single-parent households.[76] The ratio of children and retirees to working-age adults per household (the dependency ratio) has also risen.

Among the six countries we studied, the decline in household size has been steepest in Italy, where the average household went from 2.6 persons in 2002 to 2.4 persons in 2012. While household size does not affect income per capita, it limits the economies of scale people enjoy from sharing fixed living costs—such as rent or utilities—and the amount of income available for discretionary spending. "Equivalized" household income is a measure that takes the efficiencies of cohabitation into account.[77] It enables us to observe changes in living standards that result from changes in household size. Using this measure, we see that the 0.2 person drop in household size in Italy had an effect on standards of living equivalent to a 4 percent drop in household disposable income.

[73] Antoine Bozio et al., "European public finances and the Great Recession: France, Germany, Ireland, Italy, Spain, and the United Kingdom compared," *Fiscal Studies*, volume 36, number 4, December 2015.

[74] Prabirjit Sarkar, "Does Employment protection lead to unemployment?" MRPA, 2011.

[75] Juan J Dolado, ed., *No country for young people? Youth labour market problems in Europe*, CEPR Press, 2015.

[76] "Families are changing," in *Doing better for families,* OECD, 2011.

[77] For a detailed discussion of this concept, see *OECD framework for statistics on the distribution of household income, consumption and wealth,* OECD, June 2013.

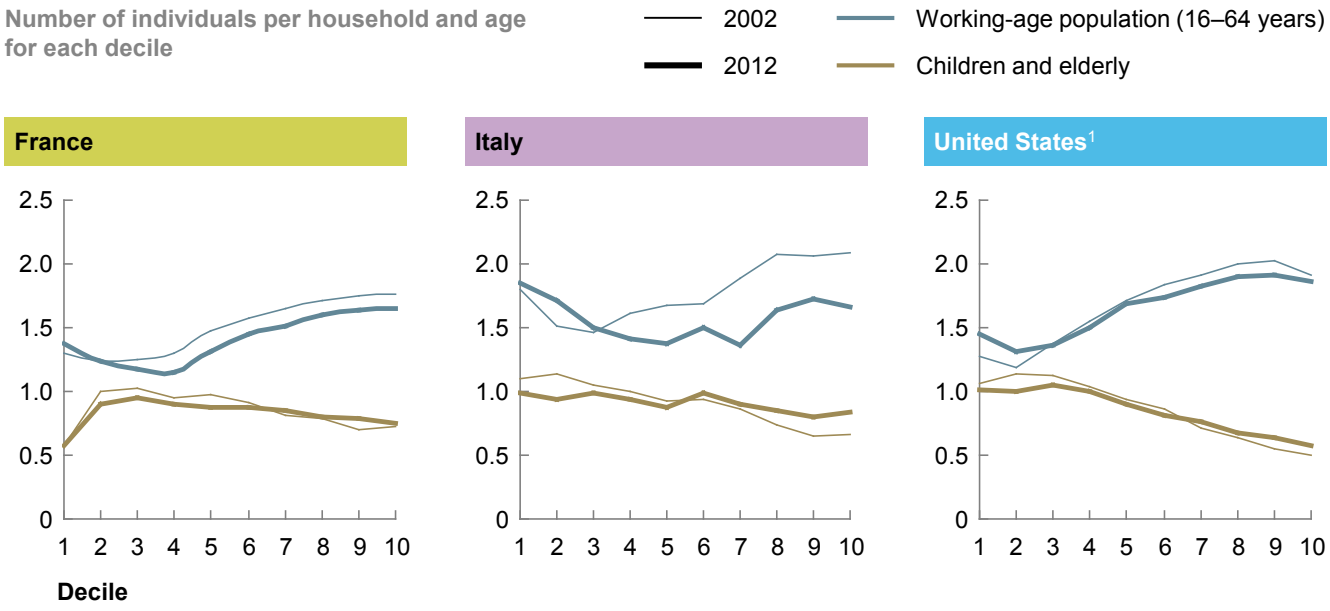
Aging, which contributes to declining household size, is of particular concern in Europe. Aging not only affects household labor incomes through retirement, but also has far-reaching implications for economic growth. As a growing number of older workers exits the labor force, aging economies lose a key source of growth: an expanding labor force. Labor-force growth contributed nearly half of GDP growth from 1964 to 2014 in advanced economies, but labor-force growth has slowed due to aging and low birthrates, and in some countries labor forces are already contracting. MGI estimates that the effect could be to reduce GDP growth by half the rate of the past 50 years, unless productivity growth accelerates by 80 percent.[78]

Household size and the average number of employed people per household have been declining since 1983 in all six countries we studied in depth.

When we combine the effects of shrinking households and decreasing working-age population, we find that the decrease in the number of working-age people per household has an important impact on income.[79] Even after equivalization to adjust for household size, households with more working-age people would be expected to have higher incomes, and that is borne out in the data; in the three economies for which we have sufficiently detailed data—France, Italy, and the United States—higher-income households are likely to have more working-age members than lower-income households. In the United States, for example, the highest-income households have nearly 30 percent more working-age people per household than in the lowest-income households (Exhibit 13).

Exhibit 13

The working-age population per household decreased in middle-income households between 2002 and 2012 in France, Italy, and the United States



1 United States data between 2003 and 2013.

SOURCE: National government microdata on 8,000 households in Italy, 72,000 households in France, and 75,000 households in the United States; McKinsey Global Institute analysis

[78] *Global growth: Can productivity save the day in an aging world?* McKinsey Global Institute, January 2015.
[79] Working-age population consists of people between the ages of 16 and 64.

THE LABOR SHARE OF WAGES AND DISTRIBUTION DISPARITY CONTRIBUTED TO INCOME STAGNATION

Two labor-market shifts have contributed to limited wage growth for middle- and low-skill workers in advanced economies since the 1980s, particularly in the Netherlands, the United Kingdom, and the United States. The first is the total share of GDP that flows to wages in advanced economies, which has fallen as the share flowing to capital has risen. The second is the distribution disparity of income—in other words how that overall wage share is distributed among different income segments. Median income households have been receiving a lower share of the total wage share for a number of reasons, and we discuss several of the most important below. One of the most important is that demand for less-skilled workers has dropped in advanced economies, even as demand for high-skill labor has risen.[80] These labor-market factors are at work across advanced economies. They depressed labor incomes in the United States, the Netherlands, and Italy in the first period we studied (1993–2005). In the second period (2005–14), they reduced median labor income in the Netherlands and the United Kingdom, as well as the United States.

Falling wage share of GDP

From 1970 to 2014, the share of GDP flowing to workers in wages, salaries, and other forms of compensation dropped by five percentage points, on an indexed basis (Exhibit 14). This downward trend was true except for a spike during the 1973–74 oil crisis. In our model, we look at wages and salaries paid to workers, rather than all compensation to employees, to remove the effects of non-wage labor costs such as employer pensions and National Insurance contributions in the United Kingdom.[81]

Rising global competition has led companies in advanced economies to invest in productivity-improving equipment and specialize in activities that are capital- and knowledge-intensive rather than labor-intensive.

There are many reasons for the falling wage share of GDP across advanced economies. The low cost of capital in recent years and falling prices for capital goods, particularly computers, over the past three decades have encouraged investment, as have accelerated depreciation rules, which have been adopted by many advanced economies.[82] Rising global competition has led companies in advanced economies to invest in productivity-improving equipment and specialize in capital- and knowledge-intensive activities, rather than labor-intensive ones.[83] Furthermore, businesses' increasing geographic mobility may have

[80] Factors such as "financialization" of the economy and the deteriorating power of unions have been cited as leading factors in wage stagnation as well. See, for example, *Global wage report 2012/13,* ILO, December 2012; *OECD economic outlook 2012 volume 1*, OECD, June 2012; Andreas Hornstein, Per Krusell, and Giovanni L. Violante, *The effects of technical change on labor market inequalities*, Center for Economic Policy Studies working paper number 113, July 2005.

[81] In the United Kingdom, unfunded liabilities in defined-benefit pension schemes are creating downward pressure on wages to workers. See Conor D'Arcy and Gavin Kelly, *Securing a pay rise: The path back to shared wage growth*, Resolution Foundation, March 2015, and Brian Bell, *Wage stagnation and the legacy costs of employment*, Centre for Economic Performance, London School of Economics, paper number CEPCP 458, November 2015.

[82] Loukas Karabarbounis and Brent Neiman, *The global decline of the labor share*, NBER working paper number 19136, June 2013, and Loukas Karabarbounis and Brent Neiman, *Declining labor shares and the global rise of corporate saving*, NBER working paper number 18154, June 2012.

[83] This finding is in line with a central thesis of Thomas Piketty's research, which attributes rising income inequality to rising returns on capital. See Thomas Piketty, *Capital in the twenty-first century,* Belknap Press, 2014.

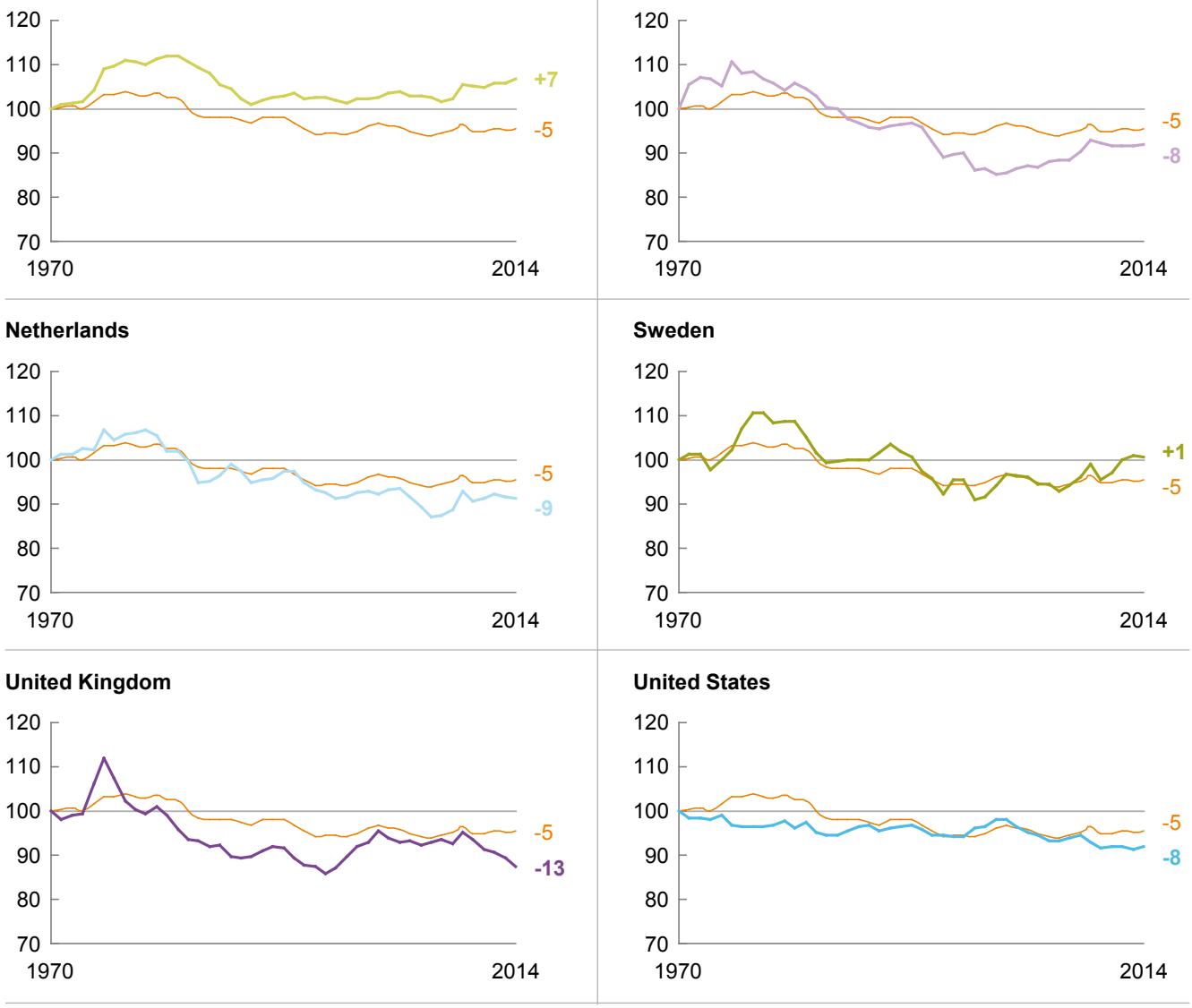
decreased labor's bargaining power. Finally, rising capital incomes from owner-occupied housing also contributed to wage share decline.[84]

Exhibit 14

The wage share of national incomes has declined over the past 44 years in every country except France and Sweden

Wages as a share of total GDP[1]
Index: 100 = 1970

Weighted average[2]



1 Measured as full compensation to employees. (This is slightly different from our model, which uses only wages and salaries for data availability reasons). Full compensation includes wages, salaries, and social insurance contributions payable by employers (e.g., social security) and does not include other employer-payable labor costs such as training, transportation, and employment or payroll tax. We use GDP as a proxy for GDI.
2 The absolute change in population-weighted average employee compensation share of GDP during 1970–2014 was from 53% to 50%; France, 50% to 53%; Italy, 43% to 40%; Netherlands, 54% to 50%; Sweden 48% to 47%; United Kingdom, 56% to 49%; and United States, 58% to 53%.

SOURCE: OECD; McKinsey Global Institute analysis

[84] *How CBO projects income,* Congressional Budget Office, July 2013. For more detail, see the technical appendix.

The wage share decline began in manufacturing and has since spread to other business sectors. In the United States, a study by the Congressional Budget Office found that wage share was relatively constant from 1950 to 2000, averaging 62.4 percent of GDP. In those years, the rise of the non-profit sector (such as hospitals) compensated for the fall in wage share in manufacturing; in education, health care, and other parts of the public sector, output is usually measured as being equivalent to wages, and thus raises the average wage share of GDP. However, the situation changed sharply after 2000, when wage share began to fall across the entire incorporated business sector that includes both manufacturing and non-manufacturing industries. In incorporated businesses, the wage share fell from 66.1 percent in 2001 to 59.3 percent in 2011. This decline was not offset by either household, public, and non-profit sectors, or by non-corporate businesses such as proprietorships and partnerships, which tend to have a higher wage share.[85]

A shift in demand toward high-skill labor has affected the income growth of low- and middle-income groups

While the recession and recovery touched most households up and down the income distribution, labor-market effects have been very highly varied. In general the top quintiles have fared better than lower income groups; they have held ground or gained a higher share of the total wage pool, except in Italy and Sweden (Exhibit 15).

This development is a reflection of shifting market demand for workers depending on their skill levels, which in turn is feeding through to the income of the groups we analyze. According to OECD research, wage growth has been more limited in low-skill occupations—construction, non-finance services, and low-tech manufacturing, for example—than in high-skill industries such as finance and high- and medium-tech manufacturing.[86]

Market demand for workers is shifting, depending on their skill levels.

97%
Wage premium in the United States of a college graduate over a high school graduate

In the past two decades, there has been a clear pattern of consistent job growth for high-skill workers and little or no growth for low- and medium-skill workers. In 1981, college-educated workers in the United States earned a 48 percent wage premium over high school graduates. By 2005, that premium had risen to 97 percent—in other words, an American college graduate earns almost twice as much as a high school graduate.[87] In Sweden and the United Kingdom, where overall employment now surpasses pre-recession levels, employment for low- and medium-skill workers remains below 2007 levels. In France, Italy, and the Netherlands, employment rates for middle- and low-skill workers are lower than employment for high-skill workers, and they declined rapidly from 2007 to 2014.

The level of educational attainment is reflected in income groups. In Italy, in the top quintile, 30 percent of workers have college degrees or advanced degrees. In the third (middle) quintile, only 6 percent of workers have four-year degrees; 28 percent have high school diplomas, some college, or two-year degrees. These relatively low skill levels help explain the flat or falling incomes of low- and middle-income households.

85 Ibid.

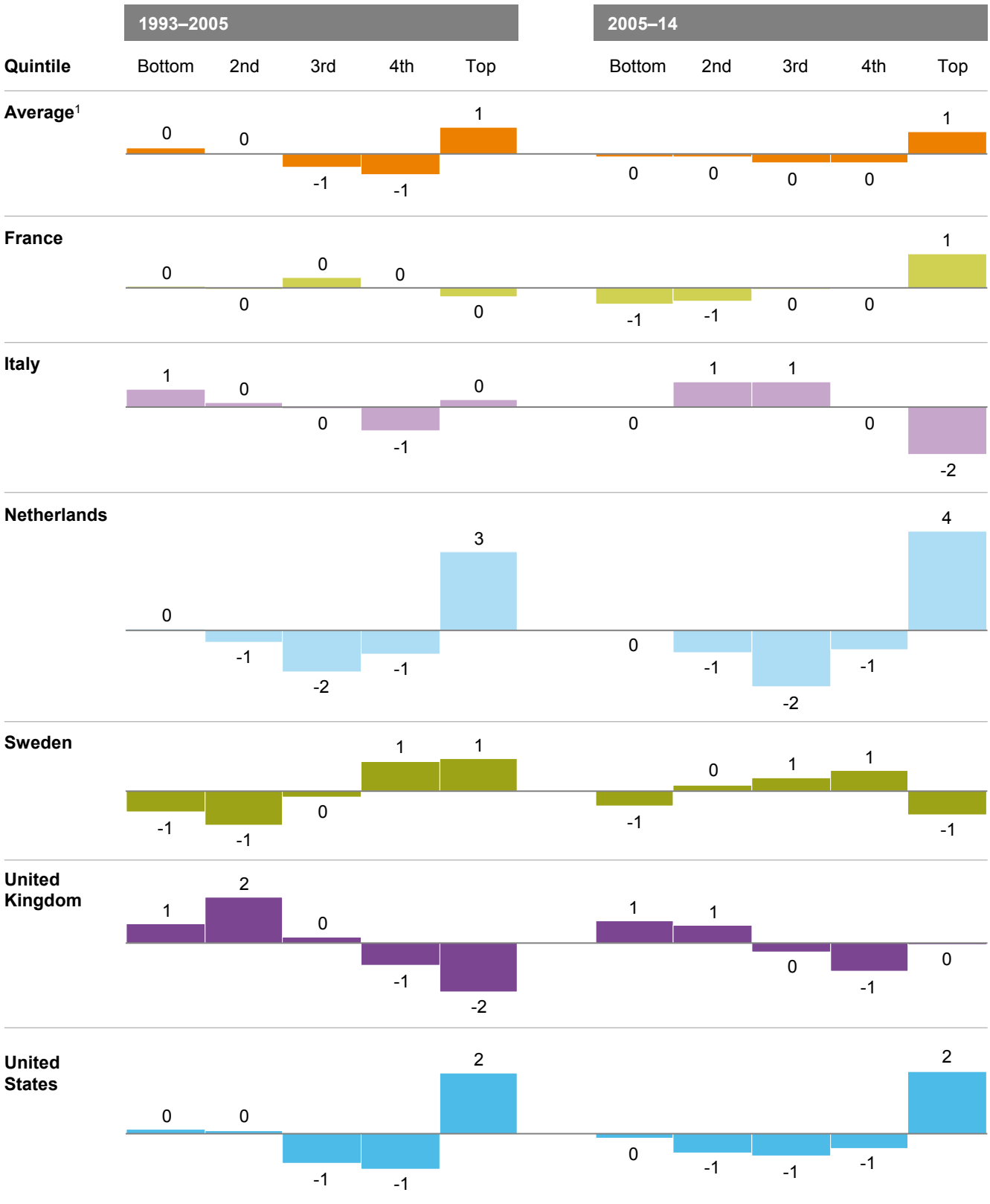
86 *The labour share in G20 economies*, ILO and OECD, February 2015.

87 David Autor, "Skills, education, and the rise of earnings inequality among the 'other 99 percent,'" *Science*, volume 344, issue 6186, May 2014.

Exhibit 15

Since 1993, upper-income households have received a growing share of total wages in most countries

Change in share of total wage pool to each quintile
%



1 Population-weighted average for advanced economies. For each country we use the latest data available – France (2012), Italy (2012), the Netherlands (2014), Sweden (2013), United Kingdom (2014), and United States (2013).

SOURCE: INSEE; Bank of Italy; CBS; Statistics Sweden; ONS; CBO; McKinsey Global Institute analysis

Median households have been affected by a long-term shift in labor demand

The diverging paths of income growth for high-skill workers and almost everyone else in advanced economies reflects a long-term shift in labor demand. Not only have companies invested in labor-saving technologies, but they have also expanded globally and taken advantage of access to new labor sources. Between 1980 and 2010, some 1.2 billion people joined the world's labor force, 900 million of them in emerging economies. We estimate that 85 million workers from developing economies were involved in export-related activities, including working for foreign multinationals and in outsourcing facilities.

At the same time, immigration has contributed more than 40 percent of labor-force growth in advanced economies such as the United States and the United Kingdom.[88] Most studies of the impact of immigration on employment and wages of natives suggest that the effects are marginal. However, a handful have found negative effects for certain labor-market segments under specific conditions, including a large influx of migrants over a short period in a confined geographic region, and slow economies that cannot create jobs at sufficient speed.[89]

40%
Contribution of immigration to labor-force growth in advanced economies

The rise of digital technologies has also made it possible for companies to grow with fewer workers overall and with a smaller number of low- and medium-skill workers, in particular (see sidebar, "How technology affects labor demand"). Technology not only automates tasks of low- and medium-skill workers (in both manufacturing and service industries), but it also tends to raise demand for high-skill talent. In the United States, 4.8 million new jobs were created in the 2000s in occupations requiring high levels of interaction with other people and independent problem solving (such as doctors, lawyers, and corrections officers), compared to a decrease of 3.4 million jobs that were transaction-oriented (such as cashiers and accountants) and production-oriented (such as food preparation and manufacturing).[90]

Growth in the number of workers in temporary and part-time work has affected income

The rise of temporary and part-time work has also affected middle-income households. In our six focus economies, the average share of workers employed part time rose from 18 percent of employed workers in 1993 to 21 percent in 2014; the share of workers on temporary contracts rose from 8 percent to 13 percent over the same period.[91] Low- and medium-skill workers are more likely to be hired on a part-time or temporary basis, which can limit current and future income.[92] Not only do temporary and part-time workers work fewer hours per year, but they also often have lower hourly wage rates (Exhibit 16). Typically, temporary work in the United States does not include benefits—which can have the effect of lifting disposable income—and it also does not always provide the experience or training that can help workers secure more highly paid employment.[93]

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88 For a further description of the emergence of a global labor force, see *The world at work: Jobs, pay and skills for 3.5 billion people*, McKinsey Global Institute, June 2012.

89 This was the case in Miami in 1980, for example, when the city experienced a significant if short-lived unemployment increase and wage decrease following the migration of 100,000 Cubans, the equivalent of 8 percent of Miami's workforce. However, the effect proved to be only a short-term one. See David Card, "The impact of the Mariel boatlift on the Miami labor market," *Industrial and Labor Relations Review*, volume 43, number 2, 1990; George J. Borjas, *The wage impact of the Mariellos: A reappraisal*, NBER working paper number 21588, September 2015; and Christian Dustmann, Tommaso Frattini, and Ian Preston, "The effect of immigration along the distribution of wages," *Review of Economic Studies*, volume 80, issue 1, January 2013.

90 For more details, see *An economy that works: Job creation and America's future*, McKinsey Global Institute, June 2011.

91 OECD labor database. Statistics use a non-weighted average and common definitions of part-time work, and they exclude self-employment.

92 *OECD employment outlook 2015*, OECD, July 2015.

93 Ibid.

How technology affects labor demand

Today, digital technologies are affecting labor demand in three ways: automating work, enabling new organizational structures, and raising demand for high-skill workers.

Automation: Robots reduce the need for machine operators in factories, and computers have made clerical work a vanishing occupation. "Smart" machines are now capable of taking on many activities once thought to be beyond automation. Activities that account for 30 percent of the work time of 60 percent of US employees could be automated with announced or available technologies, McKinsey estimates.[1] In previous waves of technology, more jobs were created than destroyed, and any perceived trade-off between productivity growth and employment growth was a temporary phenomenon; in the United States, for example, positive gains in both productivity and employment have occurred in more than two-thirds of the years since 1929.[2] This may no longer be the case given the massive potential scale and scope of labor displacement due to automation: MGI estimates, for example, that in 2025 more than 130 million jobs globally could be affected by the automation of knowledge work.[3]

New types of organizations: Digitization of business processes enables business organizations that are far leaner than traditional corporations. Connecting electronically to on-demand services (such as marketing, human resources, and accounting) and using online labor platforms to find workers on an as-needed basis, companies can have much smaller staffs. Internet-based companies tend to be exceedingly lean; online retailer Amazon has $464,000 in sales per employee compared with the $244,000 average of the top five legacy retailers in the United States.[4]

Raising demand for high-skill workers: Even as digital technologies reduce the need for low- and medium-skill workers, they raise demand for high-skill labor, including the programmers and technicians who can develop and manage automated systems. Highly digitized firms tend to have fewer, but more highly paid, employees.[5] In 2015, technology-enabled and asset-light corporations, such as application developers or "fabless" semiconductor makers, accounted for up to 31 percent of the profits generated by firms in advanced economies, up from 17 percent in 1999.[6]

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1 Michael Chui, James Manyika, and Mehdi Miremadi, "Four fundamentals of workplace automation," *McKinsey Quarterly*, November 2015.

2 *Growth and renewal in the United States: Retooling America's economic engine*, McKinsey Global Institute, February 2011.

3 *Disruptive technologies: Advances that will transform life, business, and the global economy*, McKinsey Global Institute, May 2013.

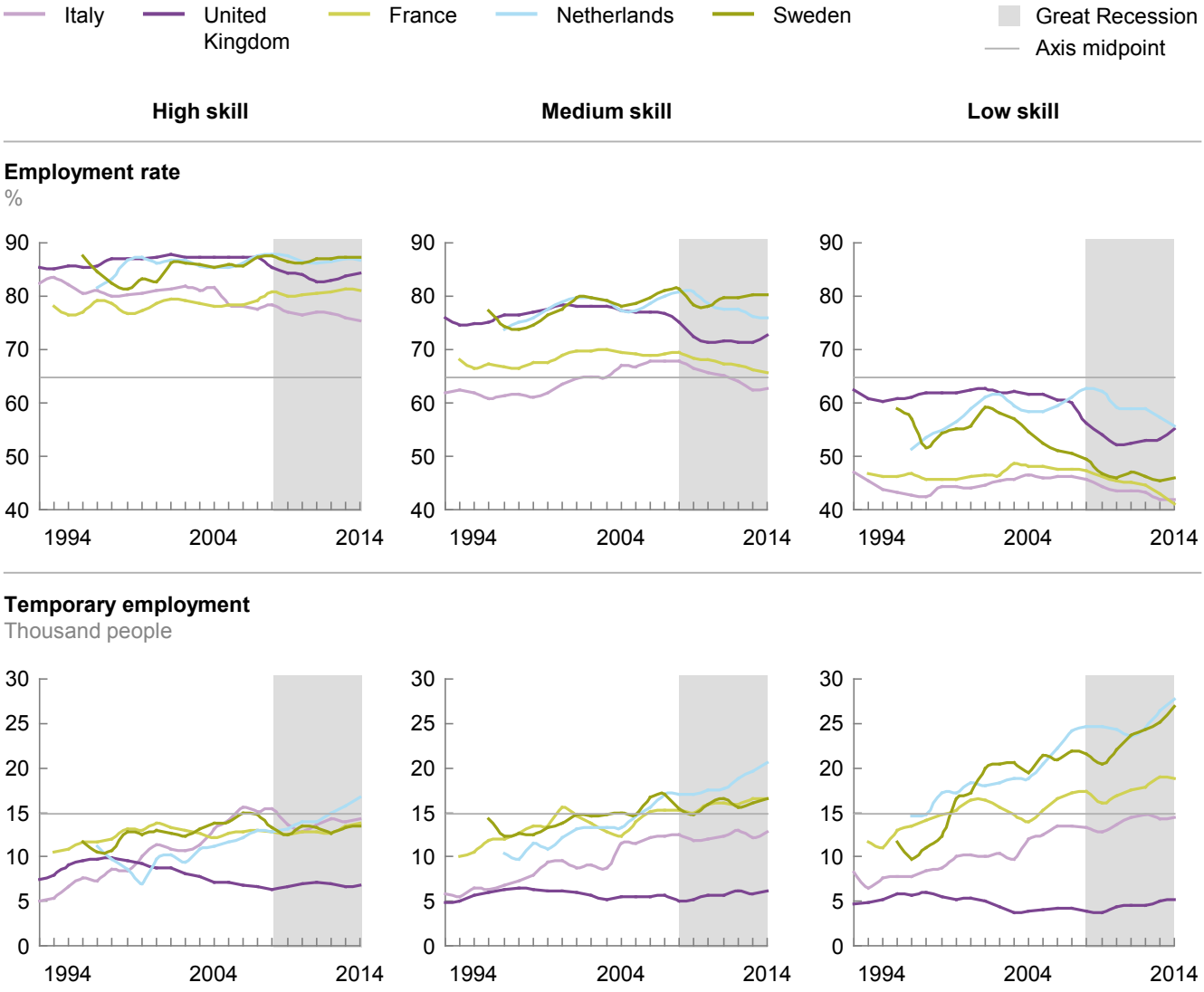
4 Annual revenue per employee, comparing global revenue and employees in 2015 from Hoover's. The top five legacy US retailers based on Kantar Retail IQ 2015 are Costco, Home Depot, Kroger, Target, and Walmart.

5 US Bureau of Labor Statistics; *Digital America: A tale of the haves and have-mores*, McKinsey Global Institute, December 2015.

6 *Playing to win: The new global competition for corporate profits*, McKinsey Global Institute, September 2015.

Exhibit 16

Employment has been lower for low- and medium-skill workers, and they are more likely to be employed on temporary contracts



SOURCE: OECD; McKinsey Global Institute analysis

Flexible work arrangements have benefits for many workers. For example, they have helped raise labor participation among individuals whose domestic responsibilities make full-time employment impractical. In the Netherlands, for example, 61 percent of women worked part-time in 2014, compared with 20 percent of men.[94] A small but rapidly growing number of workers is also actively seeking contingent work on online labor platforms, including TaskRabbit and Upwork. Even if these platforms touch only a fraction of the global workforce, they can generate significant benefits for both individuals and economies.[95]

However, temporary work and part-time arrangements can also leave workers with shorter hours and lower incomes. For some workers, part-time employment is a stopgap measure; the average share of workers in our six sample countries who are working part-time involuntarily (that is, they sought full-time employment but accepted part-time work) doubled

[94] OECD labor database. The part-time workforce was 73 percent female.

[95] *A labor market that works: Connecting talent with opportunity in the digital age*, McKinsey Global Institute, June 2015.

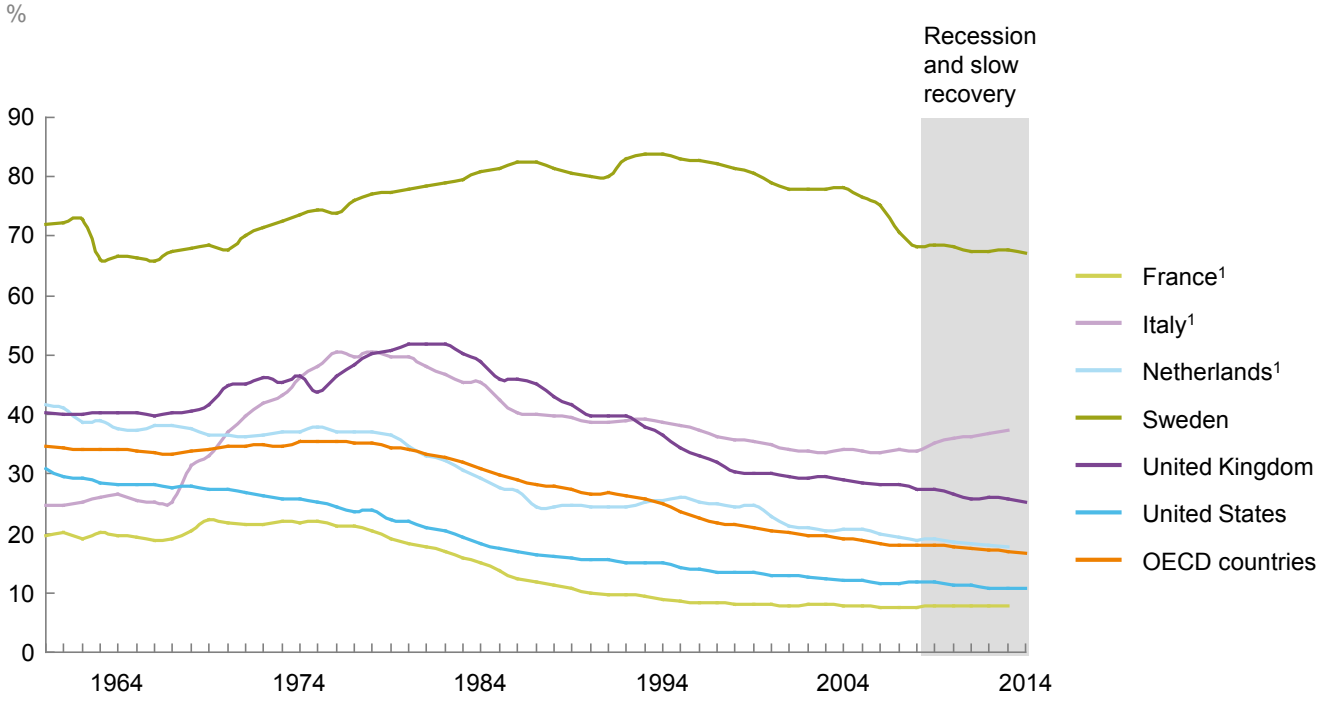
from 3 percent of the labor force in 1993 to 6.4 percent in 2014.[96] The share of temporary work increased between one and three percentage points in each country except Italy. There, the share of workers on temporary contracts jumped by nine points, from 1 percent of the labor force in 1993 to 10 percent in 2014. And while even highly paid professionals are engaged on a part-time or temporary basis, low- and medium-skill workers make up the largest share of contingent employees.

Differences in union roles and labor regulation influenced outcomes for some income segments

The differences in how labor-market shifts affected our focus economies are likely the result of national labor-market institutions and practices as well as prevailing economic models. The share of workers in OECD nations represented by a union fell from 35 percent in 1974 to 17 percent in 2014 (Exhibit 17). Research has found that countries where more workers are represented by unions tend to have lower wage inequality. However, union density by itself is not a reliable indicator; in some countries, such as France, unions negotiate at a national level on behalf of their members and all other workers in a given industry, so even where membership has fallen, unions can retain strong influence on wages and work rules.[97]

Exhibit 17

Union membership has declined in all countries but Italy, and remains exceptionally high in Sweden



1 2014 data unavailable.

SOURCE: OECD; McKinsey Global Institute analysis

Sweden and the United States represent contrasts in how market incomes of middle-income segments were affected in the past decade. In Sweden, a country with a long tradition of social democracy where 68 percent of workers are represented by unions, the median household received a greater share of output that went to wages—and received

[96] OECD labor database.

[97] Florence Jaumotte and Carolina Osorio Buitron, *Inequality and labor market institutions*, IMF staff discussion note number 15/14, July 2015; *Global wage report 2014/15: Wages and income inequality*, ILO, December 2014.

more of the gains from output growth than households in Sweden's top and bottom income deciles. This reflects Swedish labor policies such as contracts that protect wage rates and hours worked. After the global financial crisis, the government worked with unions to forge agreements for temporary reductions in work hours, which preserved long-term jobs and helped private-sector employers withstand the downturn.

In the United States, labor institutions are very different and generally place fewer restrictions on employers. There are fewer rules than in Europe limiting dismissals, and just 11 percent of private-sector workers are unionized, compared with 30 percent, on average, in Europe. Rather than accepting lower productivity as a consequence of falling demand (or using temporary layoffs to reduce costs), as had been the practice during most postwar recessions, US employers took steps to maintain productivity when the 2008 financial crisis hit, cutting jobs that were slow to return. (US productivity growth nonetheless fell back below the pre-recession rate.) This helped US companies restore profits rapidly in the recovery, despite weak demand growth.[98] Union membership is higher in the United Kingdom and the Netherlands than in the United States, though it has fallen steeply since the early 1990s. In these countries, labor-market shifts had even greater negative effects on median incomes than they had in the United States.

CAPITAL INCOME FACTORS HAD A RELATIVELY MINOR EFFECT ON MEDIAN AND LOW-INCOME HOUSEHOLDS

Capital income is derived from a range of investment and business activities including interest and dividends from financial-market investments, asset sales, business income, and private pensions. For upper income households, capital income is significantly more important than for other income segments, an issue that has become a focus of other income inequality research.[99] For example, in 2014 it amounted to 27 percent of market income and 33 percent of disposable income for households in the highest income quintile. That compared with 14 percent of disposable incomes for median households.

14%
Contribution of capital income to disposable income of median income households in 2014

For our analysis, however, capital income is not a major factor, as the shift between 2005 and 2014 was very small. As a percentage of disposable income, for example, the share of capital income remained unchanged on average in our six focus countries for the low- and middle-income quintiles in 2005–14. Looking back further in time, capital income also shifted only modestly for most income groups between 1995 and 2005, dropping slightly for the bottom four quintiles.

In fact, the largest movement in capital income as a share of disposable income was actually felt by high-income households in the top quintile. For them, capital income rose sharply in weight from 1995 to 2005, rising from 28 percent of disposable income to 35 percent, and then falling back slightly from 2005, to 33 percent in 2014.

Capital income as a percent of disposable income remained unchanged on average in 2005–14 for the low- and middle-income quintiles.

[98] *An economy that works: Job creation and America's future*, McKinsey Global Institute, June 2011.
[99] See Thomas Piketty, *Capital in the twenty-first century*, Belknap Press, 2014.

TAX AND TRANSFER POLICIES HAVE BLUNTED THE EFFECTS OF FLAT OR FALLING WAGES ON DISPOSABLE INCOME

Public policy has played a significant role in cushioning citizens from the effects of flat or falling incomes by helping preserve disposable incomes. Government policies can put more money in the pockets of households by raising the value of direct transfer payments such as unemployment benefits or by lowering taxes.[100] In the past decade, many governments raised transfer payments and cut taxes to stimulate demand following the recession. Transfers net of taxes constitute on average approximately nine percent of disposable income for middle-income households; for those in the lowest quintile, they add up to more than 50 percent. Raising taxes on upper income groups, as Sweden has done, also limits the growth of income inequality, but that does not necessarily put more money in the pockets of average consumers.

The difference between the rates of inequality in market incomes and in disposable incomes reflects how government tax and transfer policies have helped mitigate the effects of wage inequality—or failed to do so. In Exhibit 18 we observe the impact of tax and transfer policies on income inequality in the six focus countries from 1993 to 2012 by plotting changes in Gini coefficients. The Gini coefficient is the standard measure of income inequality based on a calculation of dispersion of income across an economy. A score of 100 indicates complete inequality (one person earns all of the income); a score of 0 represents completely even distribution of income across the population (each citizen earns the same amount). Market Ginis, which measure inequality in market incomes, are fairly even across the six economies, but net Ginis are more diverse, reflecting the effects of different tax and transfer policies on disposable incomes.

It should be noted, however, that flat or falling incomes do not translate directly into changes in the income Gini coefficient. A Gini coefficient measures inequality in a distribution, whereas our income analysis by decile gives us a view of changes in that distribution. Our deciles can be used to calculate the evolution of the Gini coefficient in each country, but a Gini coefficient change cannot be used on its own to infer underlying dynamics. For example, looking at only the Gini coefficients, Italy would appear to be better off in 2012 than in 2005 as its market income Gini decreased from 50 to 49. However, our decile analysis shows that in Italy, every decile had flat or falling incomes in the 2005–14 period. Conversely, the Swedish market income Gini rose slightly, from 46 in 2005 to 48 in 2012, but our decile analysis demonstrates that incomes increased in four out of five quintiles.

The Netherlands and Sweden have the lowest market Ginis (46 to 48) for the three years shown, while the United Kingdom has the highest of the six countries, with a market Gini of 53 in all years. In net Ginis, the spread between lowest and highest is 13 points, or about twice the spread in market Ginis. Sweden is most equal after taxes and transfers, with a net Gini in the range of 22 to 24 points over the 1993–2012 period. The United States is the least equal in net Gini, scoring 35 in 1993 and 37 in 2005 and 2012.

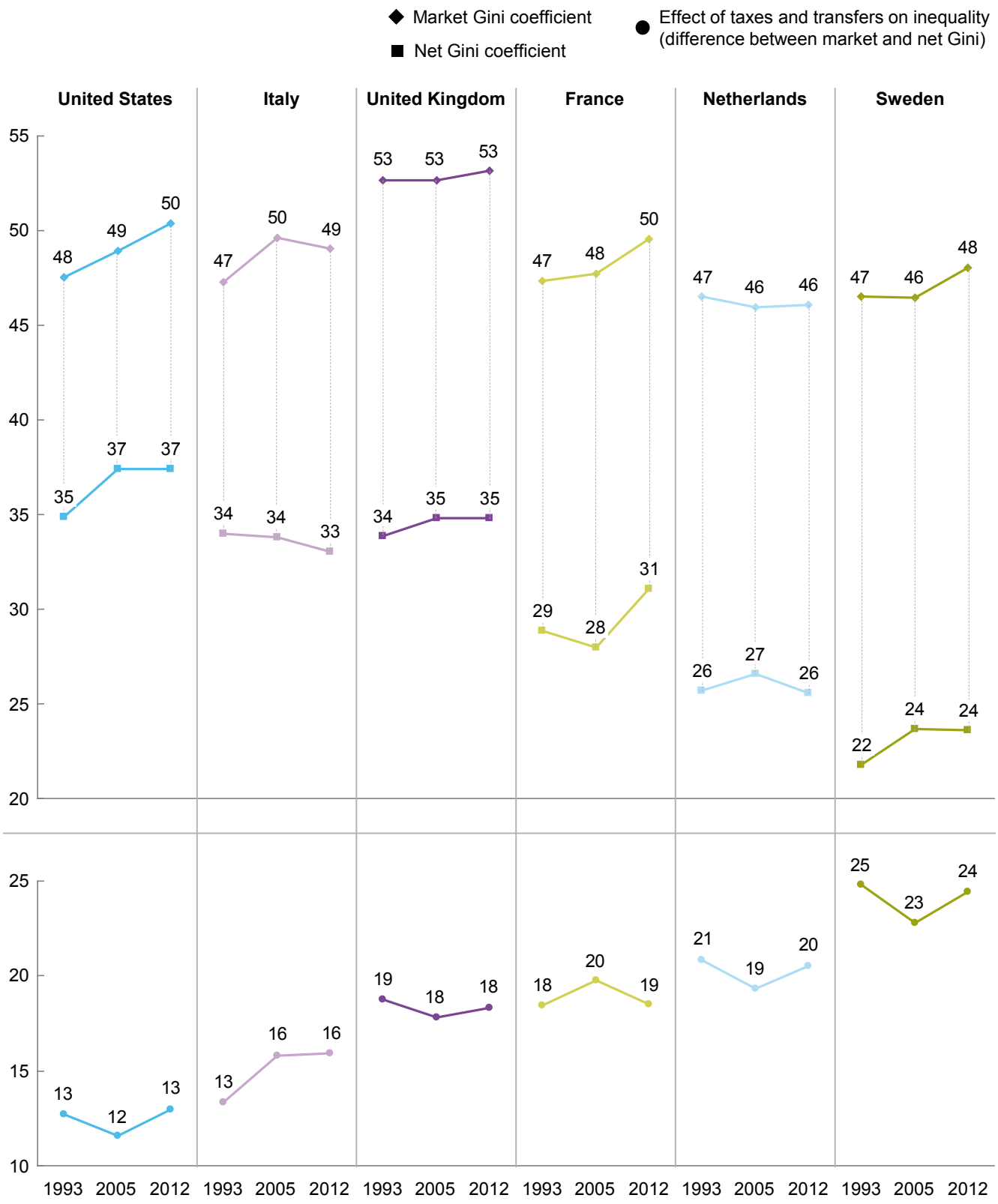
Despite being the most unequal in terms of net Gini, the United States used changes in transfers and taxes to raise disposable income and make up for all losses in market income. In the Netherlands, net transfers have grown in the past decade but have not made up for declines in market incomes of middle- and low-income households. In all countries except Sweden (and to some extent the United States), the increase in disposable income was driven by higher transfers, rather than tax cuts (Exhibit 19).

[100] The data do not capture the value of in-kind payments, such as medical care or food stamps, except in the United States.

Exhibit 18

Inequality as measured by market Ginis has increased in most advanced economies, but transfer payments have limited the impact on net Gini (based on disposable income)

Market Gini and net Gini coefficients (index 0–100), and difference between market and net Gini, 1993–2012



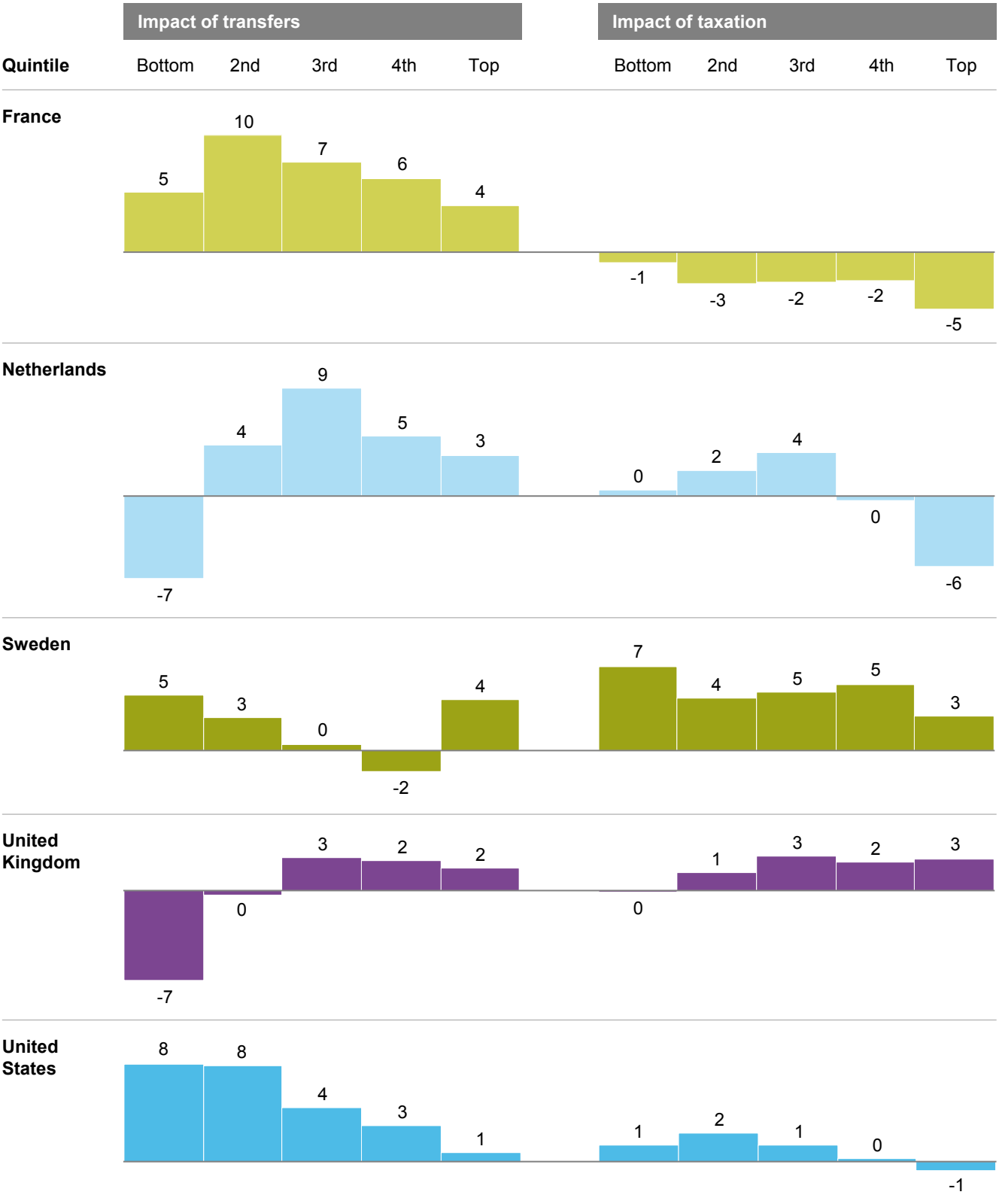
NOTE: We use data from the Standardized World Income Inequality database, which provides market and net Gini data for 174 countries for the periods we examine in this report.

SOURCE: Frederick Solt, *The standardized world income inequality database*, working paper, SWIID version 5.0, October 2014; McKinsey Global Institute analysis

Exhibit 19

Transfer payments had a greater impact on disposable incomes for the middle-income households in our focus countries[1]

Effect of changes in taxes and transfers on disposable incomes from 2005 to 2014
%



1 Data for Italy do not separate the effects of taxes from transfers and hence we exclude Italy in this analysis.

SOURCE: INSEE; CBS; Statistics Sweden; ONS; CBO; McKinsey Global Institute analysis

Public pension payments formed the largest share of increased transfers in our focus economies. In France, public pension payments accounted for about 85 percent of the increase in transfers between 2005 and 2012, while in the United Kingdom, they accounted for about 45 percent of the rise. Even in Sweden, where a drop in unemployment payments reduced overall transfers, pension payments rose.

The United States used changes in transfers and taxes to raise disposable income and make up for almost all losses in market income.

Pensions can reduce income inequality among older citizens, particularly women who had low earned income before retirement.[101] But rising pension payments may have little impact on overall income inequality, because payments from public pension programs go to members of all income groups. Younger members of middle- and lower-income groups could be worse off in terms of their disposable income if rising costs of programs for older citizens result in cuts to other programs.[102]

Higher costs of pensions and other programs that benefit seniors are a growing fiscal concern in advanced economies. With life expectancy rising faster than statutory retirement ages, and as baby boomers start to draw their pensions, national social security systems are coming under strain. A recent study in Australia found that in order to meet its future pension and retiree health-care obligations, Australia would have to cut all other public expenses by 32 percent or increase consumption taxes 28 percent by 2050, either of which would diminish disposable incomes for the working-age population.[103]

DIFFERING POLICY RESPONSES AND LABOR PRACTICES LED TO NATIONAL VARIATIONS IN OUTCOMES FOR INCOME GROUPS IN 2005–14

As noted in the examination of the five factors, our research has highlighted a wide variation in income growth for different segments of the income distribution in each of our six focus countries, both in the 2005–14 period and in 1993–2005. This includes the extent to which the pattern of income growth (or decline) for market incomes was transposed into a similar or different pattern for disposable incomes. Our findings suggest that at least some of these variations are a consequence of policy. While this study did not set out to map national policy measures to the income outcomes in an exhaustive manner, some features do stand out.

First, government taxes and transfers can play a decisive role in limiting or reversing the decline of market incomes at the level of disposable incomes. Of our six focus countries, this is particularly striking in the United States, where a decline in market incomes of four-fifths of income segments in the 2005–14 period translated into an increase in disposable income for all but the top 1 percent (see sidebar, "Swedish and US policy responses varied, but both countries boosted disposable income for median households"). Government intervention can also accentuate income declines, as happened in Italy, where austerity measures raised taxes and reduced some benefits, aggravating the drop in market incomes for all quintiles.

[101] Patrick Aubert and Marion Bachelet, "Disparités de montant de pension et redistribution dans le système de retraite français," *L'économie française,* INSEE, 2012.

[102] Peter Haan, Daniel Kemptner, and Victoria Prowse, *Inequality and defined benefit pensions when life expectancy is heterogeneous*, DIW Berlin, February 2015.

[103] George Kudrna, Chung Tran, and Alan Woodland, "The dynamic fiscal effects of demographic shift: The case of Australia," *Economic Modelling*, volume 50, November 2015.

Swedish and US policy responses varied, but both countries boosted disposable income for median households

The United States and Sweden represent contrasting policy approaches and responses to the recession that followed the financial crisis.

As we have seen, market incomes in Sweden in 2005–14 rose for middle-income households, whereas in the United States they fell for the same median income segments. In both countries, however, the outcome for median households was a boost in disposable income.

In Sweden, which went through a deep four-year recession and banking crisis in the 1990s, GDP shrank by 5 percent in 2009, but it quickly bounced back, growing by 6 percent in 2010, or twice the US rate that year. The Swedish government focused on job preservation and creation, adding temporary jobs to the public sector, reducing payroll taxes for businesses, and providing tax incentives to hire young people and the long-term unemployed.[1] The US approach was more geared toward stabilizing sectors such as banking and autos through bailouts and stimulating demand in the economy.

In both countries, tax cuts and stimulus spending including transfers to households led to higher disposable income. Sweden expanded eligibility for unemployment benefits and raised payments, while reducing income taxes. In the United States, tax cuts and unemployment benefits more broadly reversed the decline in market incomes for median households, transforming that drop into gains in disposable incomes.

In Sweden, only 20 percent of the population was in deciles with flat or falling market incomes, and median household incomes grew from 2005 to 2014. The median disposable income in Sweden rose by 17 percent from 2005 to 2014.

In the United States, market incomes were flat or falling for 81 percent of income segments in the past decade, but the effect of more generous tax and transfer policies maintained disposable income across deciles. And in fact, as a result of tax and transfer policies—particularly since 2000—median US disposable income has risen sharply, even as market income has dropped.

In Sweden's case, the response was influenced by the previous crisis in the 1990s. In its aftermath, the government recapitalized banks, cut taxes on capital gains to encourage entrepreneurship, and scaled back some of its generous welfare programs—reducing sick pay and increasing co-pays for prescription drugs, for example.[2]

What lessons from the Swedish experience could apply to other economies? One of the most important is to use recoveries and expansions to repair national balance sheets to enable the spending to get out of the next crisis. After its financial crisis, Sweden set a cap on government spending and set an official goal of generating a 1 percent surplus every year—compared with a deficit of 7 percent of GDP in 1995. By the time the 2008–09 recession arrived, central government debt was only 36 percent of GDP (compared with 40 to 100 percent in the other five countries we analyze in depth). This gave Sweden the wherewithal to fund tax cuts and other stimulus efforts in the recovery.

Swedish reforms from the 1990s also helped raise labor participation among older workers and women, which increased productivity and contributed to GDP. After the 1990s crisis, Sweden switched its national pension program to a defined-contribution model. This has helped raise labor participation among 55- to 64-year-old workers aged to 79 percent, compared with 64 percent in the United Kingdom and the United States. Sweden, which declared itself the world's first "feminist government" in 2014, has adopted a series of policies to encourage female labor participation, including 90 days of parental leave per parent. The result is that 79 percent of Swedish women are in the labor force, compared with 72 percent in the United Kingdom and 67 percent in the United States.

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1 Dominique Anxo and Thomas Ericson, *Labor market measures in Sweden 2008–13: The crisis and beyond*, ILO, February 2016.

2 *Growth and renewal in the Swedish economy*, McKinsey Global Institute, May 2012.

Second, the lowest income groups were not always the segment to bear the brunt of flat or falling incomes; in all of our focus countries except Sweden, middle-income segments also felt the impact, as a result of declining income from labor. Higher income segments also experienced a decline in market income in Italy, the United Kingdom, and the United States as a result of lower income from capital, which was especially volatile during and after the 2008 financial crisis. In the United States, higher capital income increased disposable income growth for the top quartile by 24 percent in 1993–2005 but pushed it down by 6 percent in 2005–14.

Looking at some countries individually, Sweden stands out as the only one where market incomes rose for middle-income households, Sweden had gone through a previous steep downturn in the 1990s, and applied some lessons learned during that crisis to the post-2008 recession. Among other measures, it focused on job preservation and creation.

In the United Kingdom, the pattern of disposable income in from 1993 to 2005 highlights the outcome of the redistributive policies of the government of Tony Blair, with sharp income increases for the lowest quintiles. The British economy is highly reliant on revenue from the financial sector to balance its budgets, and after the financial crisis, the government imposed a period of austerity when the financial revenue fell. More than four-fifths of the fiscal measures associated with austerity were spending cuts that disproportionately affected working-age people (cuts to benefits and public-sector jobs, for example), although pensions were protected from the cuts. In our data, this decrease in spending seems to have affected the bottom quintile the most from 2005 to 2014. Disposable income growth declined by six percentage points.[104]

Sweden stands out as the only one of our six focus countries where market incomes rose for middle-income households in 2005–14.

In France, there was a notable difference in the impact of labor-market factors on different quintiles. They decreased disposable income growth by 4 percentage points for the lowest quintile and increased it by 2 percentage points for the top quintile. This could be a reflection of France's two-tiered labor market, where lower-paying jobs are often temporary and do not provide the same level of benefits or security as higher-paying positions,. Moreover, throughout the financial crisis, the unit cost of workers in France continued rising, and many companies opted to stop hiring and to end short-term contracts.[105]

Of our six focus countries, the Netherlands experienced the strongest aggregate demand effect on market incomes in the 1993–2005 period, with an especially strong impact on top quintiles. Then, during the 2005–14 period, the government initially adopted expansionary fiscal policies to fight the recession followed by a period of austerity aimed at reducing its budget deficit to European Union targets. The Netherlands also taxes labor heavily; the EU estimates it creates disincentives to work for low-skill people.[106]

Italy was the only one of our six countries in which aggregate demand led to a decline in market incomes across all deciles; in the other five countries, while aggregate demand was substantially lower in 2005–14 than it had been in 1993–2005, it was still a positive factor

[104] Antoine Bozio et al., "European public finances and the Great Recession: France, Germany, Ireland, Italy, Spain, and the United Kingdom compared," *Fiscal Studies*, volume 36, number 4, December 2015.

[105] Mathias André et al., "French public finances through the financial crisis: It's a long way to recovery," *Fiscal Studies*, volume 36, number 4, December 2015.

[106] "Europe 2020 in the Netherlands," European Commission, 2016.

for market incomes. Italy has an above-average tax rate, and it raised taxes as part of its economic and financial policies during the Eurozone debt crisis in 2010–14. Unlike in some other countries, including the United States, taxes and transfers thus had a negative impact on the bottom three quintiles of the income distribution; disposable incomes for households in these low- and middle-income segments were below market incomes.

FACTORS THAT COULD DETERMINE INCOME GROWTH TO 2025

All five of the factors we identified earlier as contributing to the stagnation or decline in median household incomes since 2005 are likely to affect income growth in the future. We have conducted some sensitivity analyses for income growth over the next decade to 2025, using different hypothetical models for aggregate demand and adoption rates of automation in the workplace (Exhibit 20).[107]

Exhibit 20

Depending on the pace of GDP growth and automation adoption, as little as 10 percent of income groups and as many as 80 percent might not advance through 2025

2012–25 sensitivity	Low growth	High growth	High growth with labor-market disruption
Labor-market dynamics	Growth and labor-market trends of past decade continue through 2025	Growth returns to pre-recession average; labor-market effects return to higher 30-year average	Growth returns to pre-recession average, but automation continues to depress labor-market factors
Flat or falling market incomes % of population	70–80	10–20	30-40
Additional income needed to ensure all groups advance % of current transfers	15–20	0–5	5–10

SOURCE: McKinsey Global Institute analysis

The pace of GDP growth in advanced economies is one of the most variable of our five factors and while it will not be the sole determinant of future income growth, it will be a major one. As we have seen, the post-2008 global recession and slow recovery that followed had a significant impact on incomes, by substantially reducing the aggregate demand component of income growth compared with buoyant growth in the 1993–2005 era. According to our analysis, aggregate demand factors nonetheless had a positive effect on incomes even in the 2005–14 period in five of our six focus countries, with Italy being the sole exception.

[107] We model these scenarios for three countries—France, Italy, and the United States—where we had the microdata to estimate employment and wage outcomes for each income decile. The consolidated results are based on a simple average of these three economies, which we use as a proxy for outcomes across advanced economies.

The demographic factors—that is to say, the decline in household size and a drop in the number of working-age adults per household—are long-run trends resulting from lower fertility rates, increased longevity, and changes in family structures, with more single-parent families. The labor-market factors—the wage share and its uneven distribution among different income segments—will likely continue to be affected by a range of developments. Growing automation in the workplace could further reduce the need for low- and medium-skill workers, even as it increases the demand for high-skill ones. At the same time, digital technology platforms such as LinkedIn and Monster could help overcome mismatches between workers and jobs, while firms such as Uber or TaskRabbit could provide new opportunities for freelance employment.[108]

Changes in capital income have not been a significant factor affecting middle-income households over the past two decades, but significant shifts in global capital markets could play a role in the future. In particular, after a period of exceptional increases in 1985–2014, US and Western European stock and bond returns could fall back, and this would affect both public and private pensions.[109] Taxes and transfers will continue to influence disposable income, at a time when many governments' sovereign debt has risen to historic levels and they have not yet begun the process of deleveraging.

Our sensitivity models are based on different assumptions about economic growth, wage share, and labor demand. We use growth projections and labor-market data for France, Italy, and the United States, which we then extrapolate to our universe of 25 advanced economies based on the outcomes for the three economies.

The sensitivity analyses we conducted are not fully fledged scenarios, nor are they general equilibrium models. Rather, they represent a hypothetical closed system where we isolate the effect of changes in productivity and employment on market incomes of population percentiles but do not adjust other factors that, in reality, would also change. For example, if productivity were to rise to the extent we describe in our high-growth and labor disruption scenarios, other economic factors including consumption could also grow, leading to more employment.[110] Our scenarios do not include any potentially positive links between increased innovation and social mobility.[111] To adjust for inflation, we apply a constant deflator linked to the consumer price index for all income segments. In reality, the consumption basket is different for each income segment and could warrant a different deflator.

A continuation of current low GDP growth could further increase the proportion of flat or falling households

For our first, "low-growth" sensitivity analysis, we assume that the slow average growth in productivity, employment growth, and the markedly higher rate of decline in wage share that marked the 2002–12 decade continue throughout the next decade, and that the demographic effects continue as before. This hypothesis is broadly consistent with the view of economists such as former US treasury secretary Lawrence Summers who are predicting many years of secular stagnation due to weak demand growth and low levels of investment.[112] Other factors such as the effects of China's decelerating growth could also

[108] For more details, see *A labor market that works: Connecting talent with opportunity in the digital age*, McKinsey Global Institute, June 2015.

[109] See *Diminishing returns: Why investors may need to lower their expectations*, McKinsey Global Institute, May 2016.

[110] See the technical appendix for details of how we constructed our three scenarios.

[111] Philippe Aghion et al., *Innovation and top income inequality*, CEPR discussion paper number 10659, June 2015.

[112] The secular stagnation hypothesis, which holds that an oversupply of savings and a lack of investment can reduce growth, inflation, and the "natural" equilibrium interest rate, dates back to the 1930s and has gained renewed attention recently. See Lawrence H. Summers, "The age of secular stagnation: What it is and what to do about it," *Foreign Affairs*, March/April 2016.

result in continuing slow growth. The slow growth of advanced economies in recent years—about 0.5 percent annual growth in GDP per capita in Europe and 1.5 percent in the United States since 2009—would become a "new normal."

In this low-growth environment, an even larger proportion of income groups in advanced economies—from 70 to 80 percent—could experience flat or falling real market incomes in the next decade to 2025 than did during the 2005–12 period. Net transfers would need to be 15 to 20 percent higher, on average, to avoid losses in disposable income—a burden that would be difficult for many governments to contemplate.

This finding underscores the continuing impact of demographic and labor-market factors. Based on previous MGI research, we can expect that aging will continue to be the most important demographic force affecting advanced economies and that labor-market effects including the rising use of contingent labor and declining need for low-skill labor will continue to influence household income.

If governments choose to preserve or lift disposable incomes, transfers may need to rise sharply (as a percent of current transfers). In the United States, for instance, they would need to rise by 20 to 30 percent of the 2012 level. Such increases in transfers would be challenging today, due to the fiscal constraints imposed by high levels of government debt; another decade of slow growth would exacerbate those fiscal challenges.

In a continuing low-growth environment, an even larger proportion of income groups in advanced economies, between 70 and 80 percent, could experience flat or falling real market incomes in the next decade.

10–20%
Proportion of income groups that could have flat or falling incomes even in the event of high GDP growth

Two higher-growth hypotheses offer differing income outcomes depending on the adoption rate of automation

We conducted two other sensitivity analyses, both of which assume a return to higher GDP and productivity growth. We assume growth in output per worker reverts to the higher 30-year averages before 2005 (about 2 percent per year), wage share decline returns to the 30-year trend until 2012, and the same demographic shifts remain in force. Average GDP growth in Europe would rise to about 1.3 to 1.8 percent per year through 2025, which is in line with the five-year projection for European growth by the OECD and the European Commission.[113] In the United States, resuming the 30-year average historical growth rate in output per labor-force participant would imply a GDP growth rate of 2.4 percent per year from 2013 to 2025. With this level of growth, unemployment rates would drop by 2.4 percentage points and both labor and capital incomes would increase across the economy.

The effect on incomes would be significantly better than if low growth were to continue, reinforcing the importance of GDP growth for income growth. Market incomes under this high-growth hypothesis would rise for most households. Incomes would be flat or falling for just 10 to 20 percent of income groups, reducing the number of people affected to about 100 million from more than 500 million in 2012. It is important to note that our analysis assumes not just higher growth consistently over the coming decade, but also no marked deterioration in the labor-market shifts that have been observed in the past decade.

[113] *OECD economic outlook 2015*, OECD, July 2015; "Autumn 2015 economic forecast: Moderate recovery despite challenges," European Commission press release, November 5, 2015.

We also looked at a third hypothesis in which GDP growth is similarly high but is accompanied by labor disruption, as increasingly powerful digital technologies take on many activities now requiring workers, further reducing demand for low- and medium-skill workers. As noted, previous MGI research has found that technological innovation in the past has created more jobs than it destroyed.[114] However, the spread of digitization, which increases the automation potential of many sectors of the economy, has also prompted forecasts that this historic link between productivity growth and employment growth could change.[115] MGI has estimated that automation could accelerate displacement of medium-skill jobs to nearly twice the rate of recent decades, with as much as 15 percent of such jobs being affected.[116] For 60 percent of existing US jobs, MGI has estimated that 30 percent or more of current work activities could potentially be automated by adapting currently available technologies, representing $2 trillion annually in wages in the United States alone.[117]

If advances in technology were to have such a significant impact on the workforce, unemployment for the middle- and low-skill segments would rise and the number of employed workers per household would fall faster than in the past decade. The share of national income going to wages would decline further, as even more output would come from machines and information technology. Rising productivity would translate into rising wages across the economy in absolute terms, but low- and middle-income households may not benefit unless they are nimble in adjusting to the new realities of the labor market.

According to this analysis, 30 to 40 percent of the population might be in income groups whose real market incomes in 2025 are flat or down compared with 2015. To sustain disposable incomes, net transfers would need to rise by 5 to 10 percent. Even this would not result in growth in disposable incomes, but merely arrest the decline.

It should be noted that this hypothesis regarding labor disruption does not fully model the normal behavior of economies. In reality, the wealth and investment created by rising productivity would create new types of demand, which would lead to jobs that do not exist today. This has been the pattern when new technologies have disrupted labor markets in the past: rising output leads to more profits, which enables new investment, leading to new employment and more demand. However, this sensitivity analysis serves to illustrate the extent to which rapid adoption of technological advances can affect income inequality if the advances outpace the rate at which workers acquire new skills.

•••

The recession and sluggish recovery after the 2008 financial crisis were primary causes of the flat or falling income trend we have detailed from 2005, but demographic and labor-market factors also played a role and will continue to do so even when the global economy's scars from the financial crisis eventually heal. Even in the face of a very steep downturn, policy can make a substantial difference. In both Sweden and the United States, the disposable income of households in median income groups was cushioned by taxes, transfers, and, in Sweden's case, muscular intervention in the labor market. How could policy more generally reduce income inequality? In our final chapter, we look at a range of options—for governments and also for business—that could limit or reduce the phenomenon of non-advancement we have described in this report.

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[114] *Growth and renewal in the United States: Retooling America's economic engine*, McKinsey Global Institute, February 2011.

[115] Erik Brynjolfsson and Andrew McAfee, *Race against the machine*, Digital Frontier Press, 2011. For an assessment of automation potential, see Michael Chui, James Manyika, and Mehdi Miremadi, "Four fundamentals of workplace automation," *McKinsey Quarterly*, November 2015.

[116] *Digital America: A tale of the haves and the have-mores*, McKinsey Global Institute, December 2015.

[117] Michael Chui, James Manyika, and Mehdi Miremadi, "Four fundamentals of workplace automation," *McKinsey Quarterly*, November 2015.

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3. WHAT CAN BE DONE TO ADVANCE INCOMES?

Income inequality is rapidly moving up the public policy agenda. Governments and international organizations such as the OECD and the ILO are starting to look at more effective ways to measure it, so that policy makers and the public will have inequality indicators alongside other regularly reported economic data such as employment statistics or GDP growth. In that context, income advancement could become a policy goal in its own right, a fundamental indicator of the health of the economy and society, comparable to poverty reduction or sustaining overall employment.

For this to happen, more specific metrics will be needed to track the advancement of incomes in a comprehensive and systematic way across countries. But such measurement is only a starting point. In this final chapter we identify a range of possible actions that policy makers and business leaders may want to consider as they seek to address the causes of flat or falling incomes, reduce the number of people affected, and mitigate the effects. The ideas we present here are policy options for discussion and are not designed to be prescriptive recommendations that all countries could and should adopt. The impact or second-order consequences of some of them will become apparent only through experimentation—"learning by doing" on a global scale.

Income advancement could become a policy goal in its own right, a fundamental indicator of the health of the economy and society.

The policy options fall into three groups: ways to rekindle economic growth and broadly support business growth and job creation; initiatives to provide more opportunities for low- and middle-income households to find work; and policies to secure the income and consumption levels of low- and middle-income households through transfers, tax reforms, labor-market regulations, and compensation practices. We also identify several measures that businesses could undertake by way of their contribution to reducing income inequality (Exhibit 21). While the choice of interventions would depend on the specific economic situation in each country, many of the options we outline could be applicable in all countries.

Introducing changes that can restore income advancement will admittedly be challenging and will likely require difficult trade-offs. A number of the most effective policies and business practices we describe in this chapter will require years to bear fruit, especially upgrading education and skill levels to create new opportunities for people to earn more. Some of the tax and transfer measures we analyze could be especially difficult to introduce at a time when governments in many advanced economies are weighed down with historically high debt levels and seeking to deleverage rather than add more debt.

Exhibit 21

Possible interventions to promote rising household incomes for all income groups

● Expected area of impact

Drivers of household disposable income		Impacted factors				
		Aggregate demand	Demographics	Labor market	Capital	Taxes and transfers
Measure the phenomenon	**Create tools to gauge the extent and evolution of flat or falling incomes** ▪ Improve data quality ▪ Measure policy outcomes ▪ Spread best practices	●	●	●		●
Revive growth through productivity	**Promote growth to raise incomes for all households** ▪ Productivity growth ▪ Investment ▪ Entrepreneurship and innovation	●			●	
Increase opportunities for individuals to improve their earning potential	**Ease the transition from education to employment** ▪ Emphasis on STEM education ▪ Vocational training and apprenticeships	●				
	Improved job matching and increased labor mobility ▪ Digital employment matching engines ▪ Affordable housing and transportation	●	●			
	Increase labor-force participation ▪ Women ▪ Unemployed workers ▪ Older workers	●	●	●		●
Sustain disposable incomes despite weak growth	**Adapt taxes and transfers for low- and middle-income earners** ▪ Targeted transfers ▪ Adjusted taxes ▪ Progressive public service allocations	●				●
	Shape labor regulation and policies ▪ Minimum wages ▪ Non-traditional labor contracts ▪ Work sharing	●		●	●	
Step up engagement from business leaders	**Engage on the issue** ▪ Growth that creates employment ▪ Collaboration with local stakeholders	●		●		
	Adopt a long-term mindset on employees ▪ Wage adjustments ▪ Non-cash compensation ▪ Profit sharing			●	●	
	Create more jobs ▪ Diverse recruitment and retention efforts ▪ Productivity improvements ▪ Labor-intensive service businesses	●	●			

SOURCE: McKinsey Global Institute analysis

CREATING MEASUREMENT TOOLS TO GAUGE THE EXTENT AND EVOLUTION OF FLAT OR FALLING INCOMES

To address the issue of flat or falling incomes effectively, policy makers will need to adopt specific metrics to track the phenomenon across the entire income spectrum. For now, such data are not comprehensive or systematically gathered in most countries, and where statistics are available, they tend to be based on survey data. Measuring flat or falling incomes is an important starting point to provide a fact base, and the metrics could be improved, including through use of more reliable sources such as tax data and by integrating consumption, income, and wealth data on the same survey to make them comparable across geographies and across time.

Tracking this data could be part of the formal mandate of international organizations including the OECD or the World Bank so that it can be aggregated and compared across countries. As different policies are deployed around the world, they could be structured in a way that would enable their outcomes to be measured. Tracking and evaluating flat or falling incomes would allow for the development of a set of best practices that could be deployed across countries affected by the phenomenon. Governments could also study the impact of policy measures on the advancement of incomes, for example whether changes in depreciation rates could affect labor-market factors such as the wage share.

REVIVING GROWTH THROUGH PRODUCTIVITY

The revival of stronger economic growth will be key to raising incomes for all households regardless of where they fit in the income distribution, even in the face of demographic shifts and labor-market changes that work against income advancement. As we have seen, falling or tepid GDP growth has been a primary cause of the lack of income advancement in the years after the 2008 financial crisis. Consequently, policies that can boost productivity and growth will help to lift incomes. So far, monetary policy has been used extensively to stimulate growth, but GDP growth levels remain well below historic levels, and labor productivity growth, which declined in the early 2000s, dropped off further after the financial crisis.[118] Prior MGI research suggests a range of policy strategies, both short term and longer term, that could give a boost to productivity and GDP.

Focusing on productivity growth. The paramount importance of boosting growth through improved productivity is a theme MGI has covered extensively in 25 years of research.[119] Productivity growth, which we identify as one of the two key drivers of global growth over the past half century, will become even more important given the slowdown of the second driver, growth in the workforce, which in turn was largely the result of a growing population. Given the demographic trends in advanced economies that we have outlined above, the onus on global GDP growth will fall even more heavily on productivity in the coming half century.[120] About three-quarters of the potential for productivity improvements comes from the adoption of existing best practices and "catch-up" productivity improvements, while the remaining one-quarter comes from technological, operational, and business innovations that push the frontier of the world's GDP potential. Governments have many opportunities to help boost productivity, including through measures that would reduce waste and improve resource and energy efficiency, increase competition and deregulation, or target infrastructure and other investment that creates new jobs in the short run and shores up economic growth over the longer term.

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118 "Out of ammo?" *The Economist*, February 26, 2016.

119 Most recently in *Global growth: Can productivity save the day in an aging world?* McKinsey Global Institute, January 2015.

120 Ibid.

Restoring investment. In Europe, business, residential, and public investment declined by €260 billion ($293 billion) per year in real terms from 2008 to 2015. In the United States, net fixed capital formation decreased from 12 percent of GDP in 1950 to 8 percent in 2007, and then fell to just 4 percent in 2014.[121] In Europe, broad action to boost investment and productivity could raise annual GDP growth by as much as 2 to 3 percent per year.[122] In the United States, growth-oriented policies in energy, trade, and infrastructure could potentially raise GDP by at least $200 billion by 2020 and create more than 1.5 million jobs.[123] MGI estimates that at least $57 trillion in infrastructure investment—more than the estimated value of the existing infrastructure stock—will be needed by 2030 to support GDP growth.[124] Infrastructure investment creates low- and medium-skills jobs. While greater public spending on infrastructure may come at the expense of direct transfers (assuming constant deficits), MGI research finds that countries can cut project costs by up to 40 percent—and stretch infrastructure budgets over more initiatives—by choosing projects more carefully and managing then more effectively. Research suggests that increased public infrastructure investment can raise short- and long-term output, potentially without increasing debt-to-GDP ratios. Historically low interest rates could present governments with an opportunity to increase infrastructure investment, easing pressure on flat or falling incomes and increasing employment.[125]

Promoting entrepreneurship and innovation. Making it easier to launch new firms has been linked to faster job creation.[126] Furthermore, increased innovation has been linked with higher social mobility. Policy makers can streamline processes for registering firms, increase access to funding, provide business training for small enterprises, adjust tax structures to incentivize innovation and R&D, and limit industry-based barriers to entry for innovative entrepreneurs.[127] While such measures may lead to an even greater share of income gains going to high-skill workers, they nonetheless could boost overall output and wage growth for middle- and low-skill workers. Government can encourage startups with funding plans, business incubators, and even special visa programs for immigrants whose businesses create new jobs.[128] In addition, government can offer cofinancing to help young ventures scale up, and it can develop alternatives to bank financing to increase access to capital for small and medium-sized business.[129]

INCREASE OPPORTUNITIES FOR INDIVIDUALS TO IMPROVE THEIR EARNING POTENTIAL

In advanced economies, higher-skill and higher-paid workers have had greater opportunities to raise their incomes than those whose skills are less in demand. Several policy priorities could broaden the opportunities to all income groups and especially to demographic groups that have struggled the most to advance, such as young people with low levels of educational attainment and single mothers. An easier transition from education to employment, improved mobility, and higher labor-force participation are three such policy options.

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[121] *Secular stagnation and low investment: Breaking the vicious circle*, McKinsey Global Institute discussion paper, April 2016.

[122] *A window of opportunity for Europe*, McKinsey Global Institute, June 2015.

[123] *Game changers: Five opportunities for US growth and renewal*, McKinsey Global Institute, July 2013.

[124] *Infrastructure productivity: How to save $1 trillion a year*, McKinsey Global Institute, January 2013.

[125] Abdul Abiad, Davide Furceri, and Petia Topalova, *The macroeconomic effects of public investment: Evidence from advanced economies*, IMF working paper number 15/95, May 2015.

[126] Miltiades N. Georgiou, *Does entrepreneurship create enough jobs in Europe? A note*, Max Planck Institute of Economics, Group Entrepreneurship, Growth and Public Policy discussion paper number 2006-08, March 2006.

[127] Philippe Aghion et al., *Innovation and top income inequality*, CEPR discussion paper number 10659, June 2015.

[128] The United States, for example, offers EB-5 visas to business owners, and in the United Kingdom entrepreneurs with £50,000 in investment funds can apply for a Tier 1 visa.

[129] *Financing SMEs and entrepreneurs 2016: An OECD scoreboard,* OECD, April 2016.

Easing the transition from education to employment

Around the world, governments and businesses face a conundrum: high levels of youth unemployment and, at the same time, a shortage of job seekers with critical skills. Overcoming this mismatch is a complex undertaking that requires close cooperation among education providers, governments, and businesses.[130] Increasing skill levels and ensuring that those skills are relevant to a 21st-century workforce is one of the challenges. This can be tackled through improvements in the overall quality of primary and secondary education, so that all children leave school with a core of basic skills; strong vocational training; and, for college students, a focus on acquiring skills that are relevant for the workplace.

20%
Projected share of STEM jobs in the US labor force by 2022

Most advanced economies provide primary and secondary education to all legal residents, but quality can vary widely, and children from low-income families often perform less well at school than children from higher-income families; some drop out altogether.[131] While there is considerable debate about how to improve the quality of K-12 education, McKinsey research finds that recognized leaders in secondary education—Canada, Finland, Singapore, and South Korea—focus on the quality of teaching.[132] Schools in these nations are selective about hiring teachers, pay relatively high salaries, and invest in professional development. Putting the highest priority on teaching quality (over class size, facilities, and curricula) has enabled these countries to score highly in international assessments without outspending rivals.[133]

Putting a greater emphasis on science and numeracy skills

In our digital age, basic scientific and numeracy skills are essential and can be a path to higher incomes. In the United States, according to a survey released by the Bureau of Labor Statistics, jobs in the STEM fields—science, technology, engineering, and mathematics—accounted for 14 percent of the labor force in 2012. That share is expected to increase to 20 percent, adding 3.9 million jobs, by 2022. STEM workers earned an average of 26 percent more than non-STEM professionals in 2010, even when accounting for age, gender, and ethnicity.[134]

STEM jobs usually refer to positions that require a four-year college degree. The Brookings Institution conducted a study with a more inclusive definition of STEM jobs and found a large potential opportunity for medium-skill workers. About half of all STEM jobs are available to workers who do not have a university education, and the study found that the average annual pay for these jobs was about $53,000. That is 10 percent more than other jobs that do not require a university education.[135]

This wage premium could increase the number of students enrolled in STEM degree programs, however, educators and policymakers can take additional steps to facilitate student access to these disciplines. For many more low- and middle-income workers to benefit from STEM-related work and the higher incomes associated with it, policy makers working with education establishments could do more to improve basic numeracy skills through the school system, starting in primary school, and adjust the curriculum to provide more advanced skills in middle and high school that could be in demand in the labor market. Universities can also adapt curricula in STEM fields to reduce students' perceptions that enrolling in these subjects will make them more likely to drop out, a misconception that has

[130] For a detailed discussion of the education to employment transition, see *Education to employment: Designing a system that works*, McKinsey Center for Government, January 2013.

[131] *PISA 2009 results: Overcoming social background: Equity in learning opportunities and outcomes (Volume II)*, OECD, 2010.

[132] *How the world's most improved school systems keep getting better*, McKinsey & Company, November 2010.

[133] Ibid.

[134] STEM jobs classified using the 2010 Standard Occupational Classification (SOC) system. "Occupational employment projections to 2022", Bureau of Labor Statistics, December 2013; Jonathan Rothwell, *The hidden STEM economy*, Metropolitan Policy Program at Brookings, June 2013.

[135] Ibid.

been shown to push risk-averse students into the humanities and other fields.[136] Educators and policy makers could nudge students into more promising tracks by communicating the value of different subjects. For example, a recent US study found that university graduates in the least-paid fields made $3.4 million less over the course of their lifetime than those in the best-paid fields, a fact that might persuade some early-tenured students to opt for more skill-based courses.[137] As we discuss later in this chapter, businesses could also become involved in these efforts.

Vocational education and apprenticeships can raise skill levels and reduce youth unemployment

Increased accessibility of college and vocational education and the job relevance of tertiary education all can affect skill levels and, in turn, income levels. As noted in Chapter 2, the wage premium paid for US workers with college degrees over workers with high school diplomas has doubled since the 1980s.[138] That premium is a result of both supply and demand; employers require workers with greater skills, even as the growth in the supply of college graduates declined from 1980 to 2005.[139] Given the rising needs of employers and the poor wage growth for workers without college degrees, making college financially accessible to students from all income groups is increasingly important. This is especially the case in the United States, where annual tuition now averages 22 percent of median disposable income at public universities and 56 percent at private colleges. In Europe, tuition at public institutions makes up only 4 percent of median disposable income on average, with many countries providing entirely free tuition.[140]

56%
Cost of annual tuition at private US colleges as proportion of median disposable income

A college education is no panacea, however. Many graduates lack relevant skills, according to employers in some countries, who say that they have left positions unfilled because of a dearth of qualified applicants.[141] Universities can work with regional and national employers to adapt curricula to the needs of employers to produce graduates with job-ready skills. Government can facilitate and encourage connections among businesses, universities, and students to stimulate dialogue between employers and educational providers.

Policy makers and employers could also look to develop more non-college options, such as vocational training and community college certificate programs. In Germany and Norway, for example, more young adults attend vocational schools, and in both countries youth unemployment is lower than in other European economies.[142]Jobs such as electricians, medical equipment operators, and advanced industry maintenance workers pay well, are in high demand, and do not require a college degree.[143] One approach is to offer a standard core high school curriculum complemented by courses tailored to local employers.

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136 Maria De Paola and Francesca Gioia, *Risk aversion and major choice: Evidence from Italian students*, University of Calabria working paper number 7, July 2011.

137 Anthony P. Carnevale, Ban Cheah, and Andrew R. Hanson, "The economic value of college majors," Georgetown University Center on Education and the Workforce, 2015.

138 David Autor, "Skills, education, and the rise of earnings inequality among the 'other 99 percent,'" *Science*, volume 344, issue 6186, May 2014.

139 Claudia Goldin and Lawrence F. Katz, *The race between education and technology: The evolution of U.S. educational wage differentials, 1890 to 2005*, NBER working paper number 12984, March 2007.

140 Tuition data from *Education at a glance 2015: OECD indicators*, OECD, November 2015, available for Austria, Belgium, Denmark, Estonia, France, Finland, Italy, the Netherlands, Norway, the Slovak Republic, Slovenia, Sweden, and the United Kingdom. Median disposable income from OECD, only available for 2012.

141 *An economy that works: Job creation and America's future*, McKinsey Global Institute, June 2011.

142 OECD labor statistics, 2016.

143 Patricia Cohen, "It's a tough job market for the young without college degrees," *The New York Times*, May 10, 2016.

Apprenticeships are another option that could improve matching between graduate skills and employer needs, for both university and vocational school graduates. Apprenticeships combine in-school education with part-time employment and on-the-job training, and not only provide young people with skills that are clearly job-relevant but also help smooth the school-to-work transition. The key to effective apprenticeship programs is collaboration between educators and employers to develop curricula and credentialing criteria, giving young people needed skills and employers qualified workers. The state can help with fiscal incentives (such as tax breaks), certification, and job placement services.

Across Europe, strong apprenticeship programs have been associated with lower youth unemployment rates.[144] In Germany, where more than 55 percent of all 16- to 24-year-olds go through apprenticeships, youth unemployment is half the European average, and it is even lower for graduates of vocational programs. Apprenticeships and certification are required in Germany for occupations ranging from car mechanics to bank clerks. In 2017, the United Kingdom is introducing an apprenticeship levy of 0.5 percent of the annual pay bill to all UK businesses whose annual payroll exceeds £3 million. Companies that pay the levy will be able to access funds to run apprenticeship programs.[145]

55%
of German 16- to 24-year-olds are in apprenticeships

The German system has been transplanted successfully to other countries. In California, German-based Bayer AG and other biotech companies formed Biotech Partners with the city of Berkeley in 1993 to train young workers for jobs in their Bay Area facilities. The partnership now has 35 business and government partners and serves 100 to 125 students per year from Berkeley High School, Oakland Technical High School, and the Peralta Community College District through the Biotech Academy, established in 1996. In Oakland, a district where only 60 percent of students graduate from high school (and even fewer members of minority populations graduate), the academy has had a 100 percent graduation rate for a decade. All academy graduates—85 percent of whom are from low-income families—are accepted to college.

Improving job matching and increasing labor mobility can create opportunities for income advancement

Inefficient job markets can be a significant barrier to employment. Companies have difficulty finding qualified workers, and workers have trouble signaling that they have needed skills and qualifications.

Job matching systems can remove this barrier, helping employers fill vacancies and giving students and workers information about what skills are in demand so they can choose courses and training accordingly. The rise of online job platforms has made job matching more efficient and transparent and, according to MGI research, could help fill the equivalent of 72 million full-time jobs per year by 2025.[146] In addition, as many as 230 million workers could find new jobs more quickly, reducing the duration of unemployment, while 200 million who are inactive or employed part time involuntarily could gain additional hours through freelance platforms.[147] There may be an opportunity for government to migrate its own temporary labor needs onto these platforms. Government could also harness the increasing amount of data these platforms can provide to inform regulatory initiatives and public investment in training and retraining.

144 Federica Origo and Monica Patrizio, *The effectiveness and costs-benefits of apprenticeships: Results of the quantitative analysis*, European Commission, September 2013.

145 "Apprenticeship levy policy paper," HM Revenue and Customs, February 2016; "Tax information and impact notes," HM Revenue and Customs, 2016.

146 *A labor market that works: Connecting talent with opportunity in the digital age*, McKinsey Global Institute, June 2015.

147 Ibid.

Increasing geographic mobility through affordable housing and transportation can also improve mobility. Housing can be an obstacle for workers who need to relocate to another city to find work. For example, in the London metropolitan area, the ratio of house price to income is about 12 (the reference home costs 12 times the average annual earnings), compared with four to eight across other major UK cities.[148] Unlocking urban land for housing—primarily through better regulation and transit-oriented development—can create more affordable housing units.[149] Geographic mobility also matters for low-income urban residents who can afford neither a car nor a high-demand neighborhood: they need inexpensive transport links to jobs. Investment in metropolitan public transportation can drive such mobility within cities, increasing employment.[150] In addition, government can enable urban redevelopment and expansion, allowing people to live closer to where they work.

Raising labor-force participation, including of women and older workers, can help boost household incomes

The drop in the number of employed workers per household has depressed incomes and, as noted, is one of the chief contributors to flat or falling household incomes. The decline is a function of several factors, including aging populations, shrinking household sizes, persistently high unemployment in many advanced economies, and falling labor participation rates in some places, due to a growing number of discouraged workers. To counter these trends, countries and companies can take steps to keep workers in the labor force.

Raising participation of women. Encouraging women to remain in or to reenter the labor force is important for sustaining growth in advanced economies and for addressing the problem of stagnant and declining household incomes. Policy measures to encourage women to remain employed include sufficient maternity leave, affordable child care, and tax reforms that reduce disincentives to work. The Netherlands achieved a 3.5 percentage point increase in female labor-force participation by switching from variable tax deductions to fixed tax credits for couples. Under the previous rules, an unemployed spouse could transfer tax allowances to her or his higher-earning spouse; this had the effect of making working part-time jobs financially unattractive to women.[151] Companies can also take steps to retain female employees by giving them appropriate career paths and providing supports such as inclusion and bias workshops for all workers, offering mentorship programs, and nurturing women's networks within their organizations.[152] Recent MGI research estimated that if every country could raise the economic participation of women at the pace of the best-performing country in their region, global GDP could increase by up to $12 trillion per year—with about 40 percent of that potential value in advanced economies.[153]

Increasing incentives for the unemployed to find work. Unemployment benefits are an important safety net for workers who are laid off, but programs can also reward workers who seek employment while they are getting income support. Denmark reduced its unemployment rate by cutting the maximum term for unemployment benefits from seven years to four years and requiring beneficiaries to actively seek employment after one year.[154] Researchers in Denmark found that while measures such as monitoring, counseling, and providing job search assistance did not lead directly to employment, they put additional

148 "UK cities house price index 2015," Hometrack UK.

149 *A blueprint for addressing the global affordable housing challenge*, McKinsey Global Institute, October 2014.

150 Thomas W. Sanchez, "The connection between public transit and employment: The cases of Portland and Atlanta," *Journal of the American Planning Association*, volume 65, issue 3, 1999.

151 Nicole Bosch and Bas van der Klaauw, "Analyzing female labor supply: Evidence from a Dutch tax reform," *Labour Economics*, volume 19, issue 3, 2012.

152 *Women in the workplace*, McKinsey & Company and LeanIn.Org, September 2015.

153 *The power of parity: How advancing women's equality can add $12 trillion to global growth*, McKinsey Global Institute, September 2015.

154 *Beyond austerity: A path to economic growth and renewal in Europe*, McKinsey Global Institute, July 2011.

pressure on the unemployed to search for work, which substantially accelerated the rehiring process.[155] In the Netherlands, after young workers received unemployment benefits for six months, they were placed in three-month internships at a special training wage; employers got tax breaks for participating.[156]

Enabling older workers to remain employed. Governments can encourage older workers to remain employed through tax incentives and pension reforms, as well as by enforcing employment protections, such as antidiscrimination laws. Such measures will be increasingly important in economies with rapidly aging populations. Until recently, the trend was going in the opposite direction, especially in some European countries. In Europe overall, life expectancy has increased by more than nine years since 1970, but the average effective male retirement age has fallen by six years over the same period.[157]

Sweden has one of the highest labor-force participation rates of workers who are 65 years of age and older in Europe, a rate that increased to 17 percent in 2014 from 9 percent in 2004. Pension reforms were one measure that encouraged older Swedes to continue working. Between 1998 and 2003, Sweden moved from a traditional defined-benefit pension system to a defined-contribution system that takes into account both additional years worked and longer expected life spans. The new system also decoupled the decision to stop work from the decision to start drawing benefits and offered increased benefits to workers who continue working, even if only part time. The result has been people postponing retirement for several years. In 2007 the government lowered income taxes and employer social security contributions for employees over 65. The share of workers in the target group who stayed on after turning 65 subsequently rose by 1.5 percentage points.

In Italy, by contrast, the labor participation rate of workers aged 65 and older is just 4 percent, but the government has taken steps to curb early retirement and raise average retirement ages. Until 2012, women could retire from private-sector jobs with full pensions at 60 and men at 65. The retirement age for all workers is planned to rise to 66 in 2018, and to 67 in 2021.

SUSTAINING DISPOSABLE INCOMES DESPITE WEAK WAGE GROWTH

By sustaining disposable incomes, countries can enable citizens to maintain their lifestyles and ensure continuing consumption, which boosts demand in the economy. An arsenal of measures can be used to achieve this, some of which are the subject of public debate and academic scrutiny. Possible options include raising the value of transfers, reducing taxes, and adjusting labor regulations, including setting minimum wages. To avoid adding pressure to already-overstretched public finances in some advanced economies, such measures would need to be carefully targeted to help the income deciles most affected by flat or falling incomes, rather than broad-based—and costly—redistributive programs.

Adjusting taxes and transfers to raise disposable incomes for low- and middle-income households

The most direct way to increase disposable incomes for households with flat or falling market income is to raise the value of government benefits and payments. As we have seen, especially in the United States after the 2008 financial crisis, this can be a determining factor for household disposable income, cushioning a decline in market income or even reversing it. Policy makers can either increase transfers from the government or reduce the amount households pay in taxes—or use a combination of these approaches to put more money in the pockets of consumers. Across the six countries studied in this report, net transfers make up an average 50 to 70 percent of disposable income for households in the bottom quintile,

[155] Michael Rosholm, *Experimental evidence on the nature of the Danish employment miracle*, IZA discussion paper number 3620, July 2008.

[156] *Beyond austerity: A path to economic growth and renewal in Europe*, McKinsey Global Institute, July 2011.

[157] *A window of opportunity for Europe*, McKinsey Global Institute, June 2015.

30 to 40 percent for the second quintile and 5 to 15 percent for the middle quintile. A recent European MGI study found that a redistribution equivalent to 1 percent of GDP could create additional spending of approximately €200 billion ($225 billion) by targeting lower-income households that have a higher propensity to spend their income than wealthier ones.[158]

Targeting transfers. Transfers include both direct payments, such as unemployment benefits, and a wide range of in-kind transfers, such as health insurance and subsidies for housing and food. Researchers have found that direct transfers are usually more effective than indirect methods because they can more precisely target households.[159] If governments seek to address stagnant or falling incomes, they could create targeted transfers (cash or in-kind) based on metrics of people whose incomes are flat or falling, rather than solely on income. Trade-offs may be needed, however, as raising taxes to pay for larger transfers can affect growth. Deficit spending to support higher transfers, which is common during recessions and recoveries, is problematic for many advanced economies that have a high ratio of public debt to GDP. Even so, at a time of concern about the potential for increasingly powerful digital technologies to reduce labor demand, there has been a revival of the idea of providing a universal basic income for all citizens (see sidebar, "Guaranteed basic income—an idea whose time has come [again]?").

Adjusting taxes. While most advanced economies have progressive income tax laws, the tax burden for low- and middle-income households can still be substantial. In France, for example, social security contributions amount to 13 percent of annual wages for middle-income workers, about twice the US employee contribution. In both countries, employees stop making contributions after reaching a certain income threshold (currently $118,500 in the United States and a multiple of €38,000 depending on the type of contribution in France), which reduces the share of total income that high earners contribute in payroll taxes. Consumption taxes (sales and value-added taxes, for example) also fall disproportionately on lower- and middle-income households because they spend a larger proportion of their incomes on consumption to meet basic needs than wealthier households, which tend to save proportionately more. Low- and middle-income household also get limited benefit from tax preferences for income on capital, such as reduced rates on capital gains. Low tax rates on capital income, in effect, reduce the progressivity of the tax system.

Reducing taxes on low- and middle-income households raises disposable incomes, but there are trade-offs. Reducing consumption taxes for less wealthy income groups and raising taxes on capital income for wealthier groups could shift some of the tax burden from the poor to the rich. But shifting too much from consumption taxes to income taxes can have a negative effect on economic output.[160] Increased taxation on capital income of individuals or companies might also have the unintended consequence of shifting investment out of the country or encouraging high-skill workers to emigrate to lower-tax countries. Governments seeking to adjust capital taxation policies may need to coordinate such measures on an international level to avoid capital and talent flight.

[158] *A window of opportunity for Europe*, McKinsey Global Institute, June 2015.
[159] *Fiscal policy and income inequality*, IMF staff report, January 2014.
[160] Ibid.

Progressively allocating public services. As with taxation, the allocation of public services can be progressive or regressive. For example, in many countries, favoring highways over public transit amounts to a subsidy for relatively affluent households—and favoring transit disproportionately benefits the less wealthy. Discerning which groups benefit most from public spending is not always straightforward, but policy makers can help reduce disparity in disposable incomes by considering the impact of spending decisions. While the context is different, India has been working on ways to redirect subsidies away from richer households and toward lower income groups. In the United States, liberal rules on the deductibility of mortgage interest payments disproportionately benefit higher income groups.[161]

[161] Christian Hilber and Tracy Turner, "The mortgage interest deduction and its impact on homeownership decisions," *Review of Economics and Statistics,* volume 96, number 4, October 2014.

Guaranteed basic income—an idea whose time has come (again)?

The idea of a guaranteed basic income has attracted renewed interest as policy makers seek to grapple with flat or falling incomes in the middle class, high youth unemployment, and the prospect of further job losses to digitization. The concept of providing some form of basic income support for low-income households—also known as a negative income tax—dates to the 1970s. It has been supported across the political spectrum. On the left, it is regarded as an element of a universal social safety net. On the right, it is seen as an alternative to traditional welfare programs and their costly management organizations.

In the 1970s, Canada launched a five-year experiment in guaranteed basic income, known as "Mincome," in Dauphin, Manitoba. The poverty level decreased, hospitalization rates fell, and high school completion rates rose. One drawback observed in similar studies in the United States was that non-primary income earners (often mothers of small children) dropped out of the labor force.[1] In 1975, the United States introduced a negative income tax, the earned income tax credit, which provides income subsidies to the working poor. The program has survived for 40 years and today annual payments range from $500 for an individual with no children earning less than $15,000, to just over $6,000 for a family with three or more children and household income of less than $54,000.[2] Although available only to families in the labor force, the program has been found to help single mothers enter the labor force and to raise educational attainment for children in all families receiving the credit.[3]

A full basic income program has never been enacted and properly studied, but the idea is once again gaining credibility among policy makers and some academics.[4] Both Finland and the Canadian province of Ontario have announced plans to launch extensive guaranteed basic income experiments in coming years. However, the concept remains controversial; in a June 2016 referendum, Swiss voters overwhelmingly rejected a proposal to establish a universal basic income.[5]

1 Evelyn L. Forget, *The town with no poverty: A history of the North American guaranteed annual income social experiments*, University of Manitoba, May 2008.

2 US Internal Revenue Service.

3 Austin Nichols and Jesse Rothstein, *The earned income tax credit*, NBER working paper number 21211, May 2015; Charles Murray, "A guaranteed income for every American," *The Wall Street Journal*, June 3, 2016.

4 Charles Murray, "A guaranteed income for every American," *The Wall Street Journal*, June 3, 2016.

5 "Swiss voters reject proposal to give basic income to every adult and child," *The Guardian*, June 5, 2016.

Considering labor regulations that can raise incomes

Carefully calibrated adjustments to labor regulations can help raise incomes of households that have not advanced without unduly interfering with labor markets. For example, policy makers can consider raising minimum wages, giving part-time and temporary workers more parity with full-time workers, and developing work-sharing arrangements. Some labor-related changes can affect more than one of our five framework factors. For example, raising worker skills can increase productivity, thus boosting GDP, and at the same time have a labor-market impact, as more skilled employees earn higher wages, and thus increase the wage share of their income segment.

Raising minimum wages. The merits of raising minimum wages to reduce poverty are widely debated. Increases in the minimum wage can reduce inequality in pay, but the resulting increase in labor costs can lead employers to cut head count, avoid hiring, or hire informally. Researchers comparing changes in employment across neighboring US counties with different minimum wages found that minimum wage increases had no effect on employment.[162] Meanwhile, other researchers found that rising minimum wages correlate with only small decreases in welfare enrollment.[163] Minimum wage increases can also have implications for inflation and consumption (see sidebar, "Minimum wage raises to alleviate inequality—the pros and cons").

[162] Arindrajit Dube, T. William Lester, and Michael Reich, *Minimum wage effects across state borders: Estimates using contiguous counties,* Institute for Research on Labor and Employment working paper number 157-07, November 2010.

[163] Rachel Mack, *A measure of help for the working poor: A study of the effects of the minimum wage on welfare enrollment in the United States, 1990–2011,* Georgetown University, 2014.

Minimum wage raises to alleviate inequality—the pros and cons

A minimum wage is intended to provide sufficient income to keep workers out of poverty and protect low-wage workers with limited bargaining power. The benefits and costs of this approach are hotly debated.

Pro: It increases incomes for the bottom 25 percent. A minimum wage increase directly affects lowest earners, but a ripple effect can raise wages for the entire bottom 25 percent of the income distribution.[1] The effect dissipates after the 25th percentile, and therefore it has no effect on wages of middle-income households.

Pro: It reduces income inequality between women and men. Because more women are employed in work at the bottom of the wage scale, a minimum wage raise can help reduce gender inequality in incomes. Conversely, when minimum wages do not rise as quickly as other wages, the gap widens. In the United States, from 1979 to 2012, the declining real value of the minimum wage accounted for an estimated 48 percent of the increase in female wage inequality in the lower half of the wage distribution.[2] Younger and low-skill workers are also disproportionally affected by minimum wage movements.

Con: It involves trade-offs. A common objection to raising the minimum wage is that employers will simply fire low-skill workers. Studies have shown that the effect on employment may be minimal and employers can benefit from lower turnover.[3] Other concerns include inflation or, where pricing is inflexible, falling profits. Historically, the more likely outcome had been more investment in machinery and technology to increase productivity.[4] An argument for raising the minimum wage is that it will remove the subsidy that taxpayers provide via social transfers to workers in industries that have higher shares of minimum wage workers.[5]

[1] David Autor, Alan Manning, and Christopher L. Smith, "The contribution of the minimum wage to US wage inequality over three decades: A reassessment," *American Economic Journal: Applied Economics*, volume 8, number 1, 2016.

[2] Ben Zipperer, *How raising the minimum wage ripples through the workforce*, Washington Center for Equitable Growth, April 2015.

[3] David Neumark, "The effects of minimum wages on employment," *FRBSF Economic Letter*, volume 34, December 2015; John Schmitt, *Why does the minimum wage have no discernible effect on employment?* Center for Economic and Policy Research, February 2013; Arindrajit Dube, T. William Lester, and Michael Reich, *Minimum wage effects across state borders: Estimates using contiguous counties*, Institute for Research on Labor and Employment working paper number 15 7-07, November 2010; "Minimum wage mythbusters," US Department of Labor.

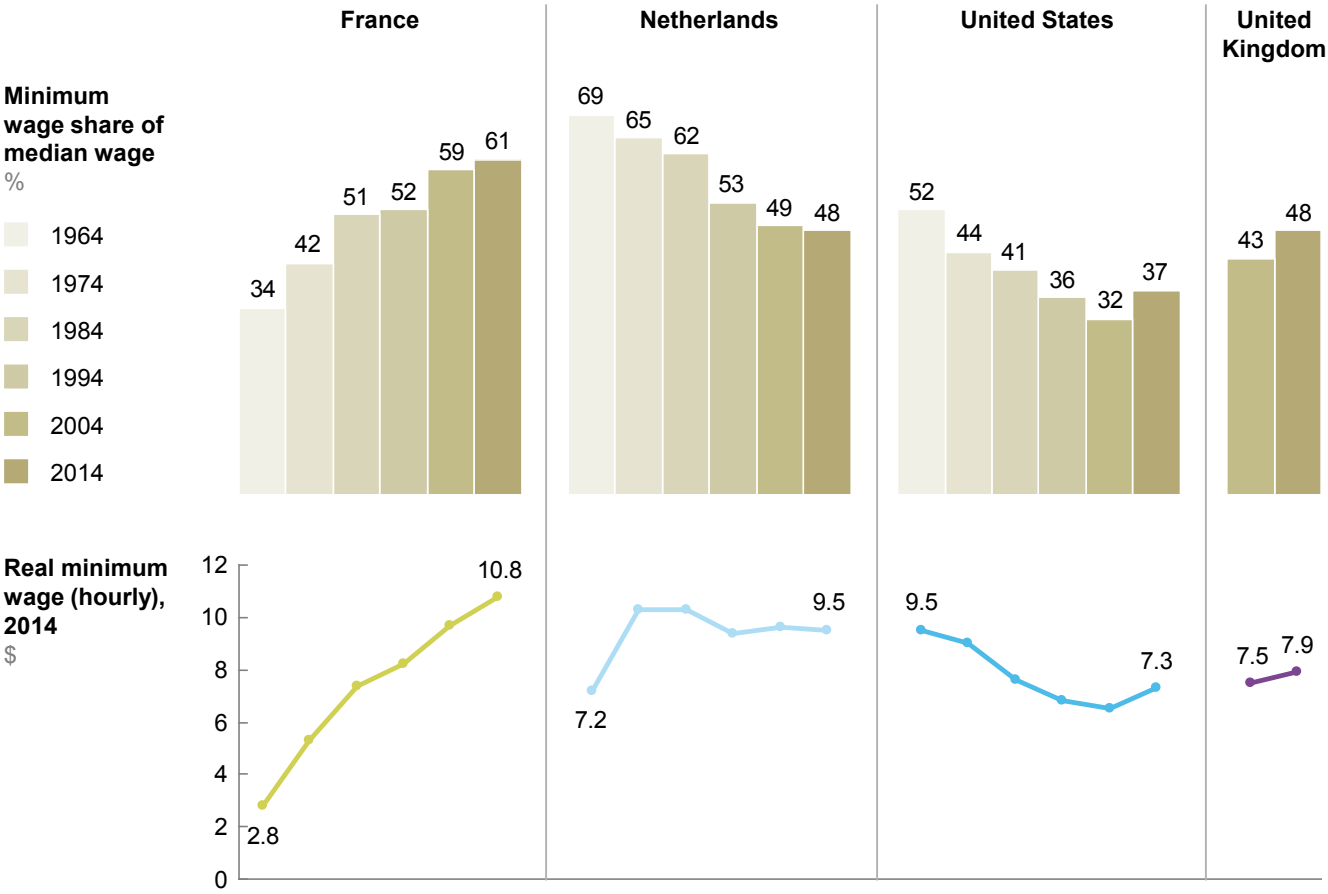
[4] Jack Karsten and Darrell West, *Rising minimum wages make automation more cost-effective*, Brookings Institution, September 2015.

[5] Editorial Board, "The case for a higher minimum wage," *New York Times*, February 8, 2014.

Different countries have different types of minimum wages, but best practices were recommended by the OECD in its 2015 economic outlook.[164] First, countries must account for regional differences in the cost of living in the minimum wage calculation. Second, governments should coordinate minimum wage policy with tax-benefit adjustments (such as lower social security payments) to ease the burden on the employer. Third, adjustments should be set on a regular schedule. In the United States, where an act of Congress is required to change the federal minimum wage, the minimum wage in real terms has fallen for the past 50 years (Exhibit 22).

Exhibit 22

Over 50 years, France has increased its minimum wage and narrowed the wage gap between minimum and median wage earners; in the Netherlands and the United States, low- and middle-wage income inequality has grown



SOURCE: OECD; McKinsey Global Institute analysis

Improving non-traditional labor contracts. In many developed economies, the labor force is divided into two broad categories: workers with permanent contracts and workers who are employed on a part-time, temporary, freelance, or informal basis. Full-time employees, who are usually older and better educated, have been able to organize and press for job security, wage increases, and benefits. Temporary and part-time workers have little leverage and in some countries do not qualify for benefits that are associated with full-time employment. Moreover, temporary and part-time workers have little opportunity to improve their skills or move into better positions within an organization.[165]

[164] *OECD employment outlook 2015,* OECD, July 2015.

[165] Françoise Carré et al., eds., *Nonstandard work: The nature and challenges of changing employment arrangements,* Industrial Relations Research Association, 2000.

Some countries, such as Denmark, Germany, and the Netherlands, have reformed employment regulations to put temporary workers on a more equal footing with permanent workers. In 1997, the Netherlands became one of the first countries to extend access to training, pension plans, and job security to employees of temporary employment agencies, and abolished permits for temporary contracts.[166] Other economies can consider ways to extend social safety net programs to contingent workers and to workers employed as independent contractors via digital platforms such as Lyft. At the same time, policy makers can review job protection policies for full-time workers that may discourage hiring, encourage more investment in automation, and result in greater use of contingent labor.[167] Studies in the United States have shown that greater flexibility in labor markets can lead to lower unemployment rates, especially for young and less-educated workers.[168]

Encouraging work-sharing. Some countries have used work-sharing programs to bolster employment and maintain incomes in times of reduced demand. These programs either cap work hours (through mandates and incentives) so employers will add workers, rather than relying on overtime when demand rises, or they reduce hours for all workers to avoid layoffs when demand is slack.

When demand is slack in Germany, work-sharing can reduce hours for up to **18** months

Germany's approach to work-sharing—*Kurzarbeit* (literally, "short work")—was enacted in 1969 specifically to save jobs during recessions. By agreement between companies and unions, when demand is slack, full-time worker hours can be reduced for up to 18 months and government pays workers subsidies to make up for most of the lost income. Companies pay social security taxes at a lower rate. In 2009, the system enabled Germany to adjust to a five percentage point decline in GDP without increasing unemployment.[169] France adopted a different approach, implementing work-sharing in 1998 by reducing the official workweek to 35 hours and limiting overtime. The law was explicitly positioned as a way to boost employment; it is estimated to have created about 350,000 jobs but has been widely criticized for hurting French competitiveness.[170] After several policy adjustments by successive governments, the French average workweek has returned to its 1998 level and is nearly identical to Germany's.

Some countries use work-sharing programs to bolster employment and maintain incomes in times of reduced demand.

[166] Ton Wilthagen and Frank Tros, "The concept of 'flexicurity': A new approach to regulating employment and labor markets," *Transfer*, volume 10, number 2, 2004.

[167] Hulya Ulku and Silvia Muzi, *Labor market regulations and outcomes in Sweden: A comparative analysis of recent trends*, World Bank policy research working paper number 7229, April 2015.

[168] Steven Davis and John Haltiwanger, *Labor market fluidity and economic performance*, NBER working paper number 20479, September 2014.

[169] Andreas Crimmann, Frank Wiessner, and Lutz Bellman, *The German work-sharing scheme: An instrument for the crisis*, ILO Conditions of Work and Employment Series, number 25, 2010.

[170] Anders Hayden, "France's 35-hour work week: attack on business? Win-win reform? Or betrayal of disadvantaged workers?" *Politics & Society*, volume 34, number 4, December 2006.

BUSINESS LEADERS HAVE A LEGITIMATE ROLE TO PLAY IN TACKLING INCOME INEQUALITY

Flat or falling incomes—and the underlying causes—have direct effects on business. The declining purchasing power of the broad middle classes that are the bedrock of consumption-driven economies is the most obvious problem. Another issue for business arises from one of the important sources of income stagnation—the escalating demand (and cost) for high-skill labor and the weak demand for low- and medium-skill labor. This creates a potentially serious shortage of qualified high-skill talent across advanced economies and a glut of less-skilled workers.[171]

The focus on "quarterly capitalism" would seem to leave little room for CEOs and other business leaders to deal with the challenges of flat or falling incomes. However, some business leaders are urging their peers to think about long-term outcomes for their companies and for all stakeholders, including employees, customers, and their communities, as a way of contributing to broad-based prosperity.[172] Here we share some ideas for how business leaders who care about the issue of flat or falling incomes can join the debate, contribute to public policy in relevant areas (vocational education, for example), help their own employees, create more jobs, and shape labor markets to fit their needs and reduce the number of workers who would be vulnerable to income stagnation.

Engaging on the issue

Business leaders have tended to shy away from the inequality debate. But CEOs have a legitimate role to play in shaping the discussion and helping to create solutions. CEOs can contribute to the policy debate by marshaling facts and analysis as well as insights from their businesses and industries. They can continue to work on education and training issues at the national level and collaborate with organizations that are innovating in these areas. In broader terms, business leaders can be advocates for investment and growth that create employment.

CEOs can also act as catalysts in their communities to enact policy changes. Many policies—for example, those to do with education, vocational training, and minimum wages—are decided at the local and regional level. A McKinsey review of corporate social responsibility initiatives found that companies that were successfully engaged at the local level, rather than concentrating all policy activities at the corporate level, had greater influence.[173] Business leaders can step up their engagement with local communities through research, advocacy, and collaboration with local stakeholders.

Some companies already work with local educational partners to improve vocational training. For example, IBM has partnered with the New York City's Department of Education and the City University of New York to create P-Tech, a school that teaches computer science and engineering to students from low-income backgrounds. Students graduate with a high school diploma and an associate's degree, qualifying them for medium-skill jobs. IBM also provides paid internships and mentors, and when students graduate they are given preference in IBM hiring. The model has proven so successful that 40 more P-Tech schools have opened across the United States, sponsored by hospitals, energy companies, and engineering industry associations, as well as by other tech companies.

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[171] *The world at work: Jobs, pay, and skills for 3.5 billion people,* McKinsey Global Institute, June 2012.

[172] See, for example, Dominic Barton, "Capitalism for the long term," *Harvard Business Review,* March 2011; John Browne, with Robin Nuttall and Tommy Stadlen, *Connect: How companies succeed by engaging radically with society,* PublicAffairs, 2016; and Kathleen McLaughlin and Doug McMillon, "Business and society in the coming decades," *McKinsey Quarterly,* April 2015.

[173] John Browne, "Here's a better way for companies to tackle big social problems," *Harvard Business Review,* March 30, 2016.

Adopting a long-term mindset about employees

Companies can move from a transactional relationship with their employees to one that is more long term. This can help companies build stronger teams and raise productivity.

By paying their workers higher wages, certain businesses have seen a return on investment in the form of higher productivity and lower turnover. IKEA, the Container Store, and Costco choose to pay more than the industry average because they believe it helps them attract and retain the best workers while minimizing turnover costs.[174]

Increasing non-cash compensation through expanded benefits is another way for companies to sustain disposable incomes for employees. Companies can offer a range of benefits that will provide significant savings for workers and, in the process, help improve productivity and loyalty. In many cases, companies are able to provide insurance, meal service, transportation, and other benefits for less than market rates due to economies of scale. Another option is investing in on-the-job training or sponsoring employees who want to pursue more education. Cigna says that it has reaped a 129 percent return on investment in tuition reimbursement. The company found that reimbursing workers for part of their tuition increased retention, enhanced career opportunities, and saved on talent management and turnover costs.[175]

Profit-sharing and other variable compensation arrangements can also be useful tools to develop employees. They enable employers to raise worker compensation without locking in higher costs that might be unsustainable when business conditions change. A study of Canadian businesses showed that profit sharing raises total compensation, adding about 15 percentage points to real employee earnings growth over a five-year period.[176] A survey by Aon Hewitt found that 90 percent of large US companies now use profit-sharing and other variable compensation plans, up from 50 percent 20 years ago.

Some countries have mandated profit sharing; Ecuador, for example, requires companies to distribute 10 percent of adjusted income before taxes to workers. There are risks to such policies, but since Ecuador instituted its plan in 1999, it has reduced income inequality more than any other Latin American nation. How much profit sharing has contributed to that record is subject to debate.[177]

Profit-sharing and other variable compensation arrangements can be tools to develop employees. They enable employers to raise worker compensation without locking in higher costs.

[174] Brad Stone. "Costco CEO Craig Jelinek leads the cheapest, happiest company in the world." Bloomberg, June 7, 2013; Aaron Taube, "Why the Container Store pays its retail employees $50,000 a year," Business Insider, October 16, 2014.

[175] *Talent investments pay off: Cigna realizes return on investment from tuition benefits*, Lumina Foundation, April 2016.

[176] Tony Fang and Richard J. Long, *Do employees profit from profit sharing? Evidence from Canadian panel data*, IZA discussion paper number 6749, July 2012.

[177] Giovanni Andrea Cornia, ed., *Falling inequality in Latin America: Policy changes and lessons*, Oxford University Press, 2014; "2013 investment climate statement—Ecuador," US Department of State, February 2013.

Creating more jobs

Diversifying recruitment and retention efforts. Employers can diversify recruitment efforts to increase labor-force participation. Companies can recruit on a nationwide basis and offer relocation assistance to improve mobility. They can introduce policies to encourage women and older workers to remain in the labor force. For example, Renault-Nissan has implemented programs to increase the number of women at all levels of management. In Japan, Nissan launched a mentoring program aimed at female managers and even opened car showrooms predominantly staffed by women to target female shoppers. Employers can also encourage older workers to stay in their jobs. Retaining expertise and institutional knowledge while postponing pension payments can be valuable for companies. For example, Toyota reemploys retiring workers as part-time employees at Toyota or its affiliates.[178]

Pursuing productivity improvements. Improvements in productivity are not always achieved at the expense of employment. Other opportunities such as reducing waste and boosting resource and energy efficiency can raise output with little impact on jobs. Investments in research and development by businesses, governments, and academic institutions that turn into successful innovations can lead to productivity-improving new technologies and accelerate GDP growth, which can create new types of jobs. Corporations in fields such as aerospace and software are helping spread productivity and creating jobs throughout their value chain by cultivating networks of innovative suppliers, distributors, and producers of complementary goods.

Building labor-intensive service businesses. There can be opportunities to build profitable businesses that will require low- and medium-skill workers. There is proven demand for child care and elder care services, jobs that could become better paying if proper accreditation and training were provided. There is also potential for employment in "domestic production"—home maintenance work that high-income people do not have the time to perform. An estimated $14 trillion in unpaid care work—$2.4 trillion in the United States alone—is performed each year globally by men and women. "Marketization" of such home maintenance and caregiving could create a billion-dollar industry and millions of jobs. If 10 percent of this home production maintenance were turned over to full-time paid workers, it could generate six million to seven million low-skill jobs by 2020, while freeing up time of high-skill workers.

•••

For government policy makers and business leaders alike, introducing changes that rekindle income advancement is not straightforward and may require some difficult trade-offs. Policies to raise productivity may not help reduce income inequality, for example, while efforts to achieve a more equal income distribution may at times inhibit moves to increase productivity growth. A number of the most effective policies and business practices we describe in these pages, especially raising educational attainment standards of young people and the overall skills of the labor force, could take years to develop. Increasing transfers to boost disposable income and jumpstart stalled demand is especially complex and controversial at a time when governments in many advanced economies are struggling with historically high debt levels. Yet consideration of these and other measures is essential, for the fundamental issue that we identify in this report, the massive increase in the proportion of income groups in advanced economies whose income is flat or falling, is in itself a threat to the well-being of economies, businesses and, more broadly, societies themselves. All stakeholders, not just low- and middle-income workers and their families, have a vested interest in ensuring that income advancement restarts and picks up, as it has for almost the entire modern era.

[178] *The world at work: Jobs, pay, and skills for 3.5 billion people*, McKinsey Global Institute, June 2012.

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TECHNICAL APPENDIX

The appendix has the following sections:

1. Estimating market incomes and disposable incomes for different population deciles
2. Scaling up our analysis to 25 countries
3. Estimating the factors influencing disposable income for median income households
4. Methodology for estimating sensitivities
5. Survey details

1. ESTIMATING MARKET INCOMES AND DISPOSABLE INCOMES FOR DIFFERENT POPULATION DECILES

Equivalized household income

To obtain household disposable income, we sum all incomes of individuals within a household and divide this by the square root of the number of individuals within the households. This "equivalization" adjusts household incomes to household sizes. For example, for two households with the same total household income, a two-person household's equivalized income will be smaller than a one-person household's because the income is being spread over two people. However, the two-person household's equivalized income will be larger than a one-person household with half their total household income because of the economies of scale that are generated from living together.[179]

Data sources

For four of the six countries we examined in detail (the Netherlands, Sweden, the United Kingdom, and the United States), we obtained data from national governments and statistical agencies about sources of disposable incomes. As discussed below, for France and Italy, we used household-level microdata.

Data are available by income decile in the Netherlands, Sweden, and the United Kingdom, and by quintile in the United States, except for the top 20 percent of the distribution, which is split into four segments 80th to 90th, 90th to 95th, and 95th to 99th percentile, and the top 1 percent of the distribution).

We group these income components into three main categories: income from labor, income from capital, and net income from transfers (government payments received less taxes paid). Income from labor includes gross wages and salaries. Income from capital includes business income, capital gains, and other market income (such as private pensions) that is not income from labor.

Where possible we use data from 1993, 2005, and 2014. For Sweden, data for 1993 are not available, so we use data for 1995 instead. The Centraal Bureau voor de Statistiek (CBS) of the Netherlands changed the definitions of income groups in 2000. The CBS also

[179] For a detailed discussion of this concept, see *OECD framework for statistics on the distribution of household income, consumption and wealth*, OECD, June 2013.

provides two versions of some components of household income data for 2000, which we use to adjust income data in years prior to 2000. We adjust our numbers for 1993 by scaling up the wage and capital income figures based on changes in the gross income, and we scale disposable income using the changes in disposable income between the two versions in 2000.[180] In the United States, Congressional Budget Office (CBO) data are available until 2013. We use household incomes that are ranked by the CBO on the basis of market incomes.

For our calculation of the earnings of the median household in each country, we use the average values of the fifth and sixth income deciles in the Netherlands, Sweden, and the United Kingdom, of the third quintile in the United States, and the average of the 40th to the 59th percentile in France and Italy for market income. For the bottom quintile of households, we use the average of the first and second income deciles in the United Kingdom, the Netherlands, and Sweden, of the first 20 percent in France and Italy, and of the first quintile in the United States. We use similar approaches to estimate the averages for the 30th, 70th, and 90th deciles.

For France, disposable income data is available at 10 percentile intervals. For market incomes in France and all income data in Italy, data about sources of income by income decile are not available. We estimate decile-level data by using household-level microdata, which include income information about 72,000 households in France and 8,000 households in Italy.[181] These data include total disposable incomes per household, split by labor income, capital income, and transfer income. In these data, labor and capital incomes are reported on an after-tax basis, so we use local tax rates to estimate pretax labor incomes and to calculate the net value of transfers. Based on the incomes of individual households, we construct the income distribution and with that we estimate the incomes for the median households. To be consistent with the median income household data for the other countries, we use the average incomes of households in the 40th to the 59th percentile to calculate the median income. For France, this microdata is available only for 1996 onward, so we use data from 1996, 2002, and 2012 to represent our three points in time. For Italy, we use the data for 1993, 2002, and 2012.

For all economies, we use the national consumer price indexes from the OECD to calculate all disposable incomes in 2010 real local currencies.

2. SCALING OUR ANALYSIS TO 25 COUNTRIES

To estimate the impact of flat or falling incomes across advanced economies, we scale our findings from the six economies we studied in depth (France, Italy, the Netherlands, Sweden, the United Kingdom, and the United States) to 19 more economies (Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, Germany, Greece, Hungary, Iceland, Ireland, Luxembourg, New Zealand, Norway, Portugal, Slovenia, Spain, and Switzerland). Together, these 25 countries have a population of 800 million and account for just over 50 percent of global GDP. We use data from the six countries in two periods: 1993 to 2005 and 2005 to 2014. Our main scaling methodology is to group all countries into six groups, based on similarities in GDP growth rates and shifts in income inequality between the two periods, which we measure using changes in net Gini coefficients. We calculate the population in each group and then take a population-weighted average of the share

[180] The CBS in the Netherlands also stopped reporting equivalized incomes by decile after 2000. To make the incomes comparable we apply the same ratio of equivalized disposable income to unequivalized disposable income across income deciles. In 1993, we make an additional adjustment for the two slightly different ratios of equivalized to unequivalized disposable income for 2000.

[181] Sample sizes in 2012; in earlier years sample sizes were slightly different.

of the population that is not advancing to calculate outcomes on the aggregate level for advanced economies.

To ensure that our clustering methodology does not dictate the outcomes, we compare outcomes of our main scaling methodology with two other approaches. First, we use an alternative grouping of countries into six groups based on per capita GDP and net Gini coefficients. Second, we use a simple population-weighted average of just the six countries. The outcomes from all three methods of estimation were similar (Exhibit A1).

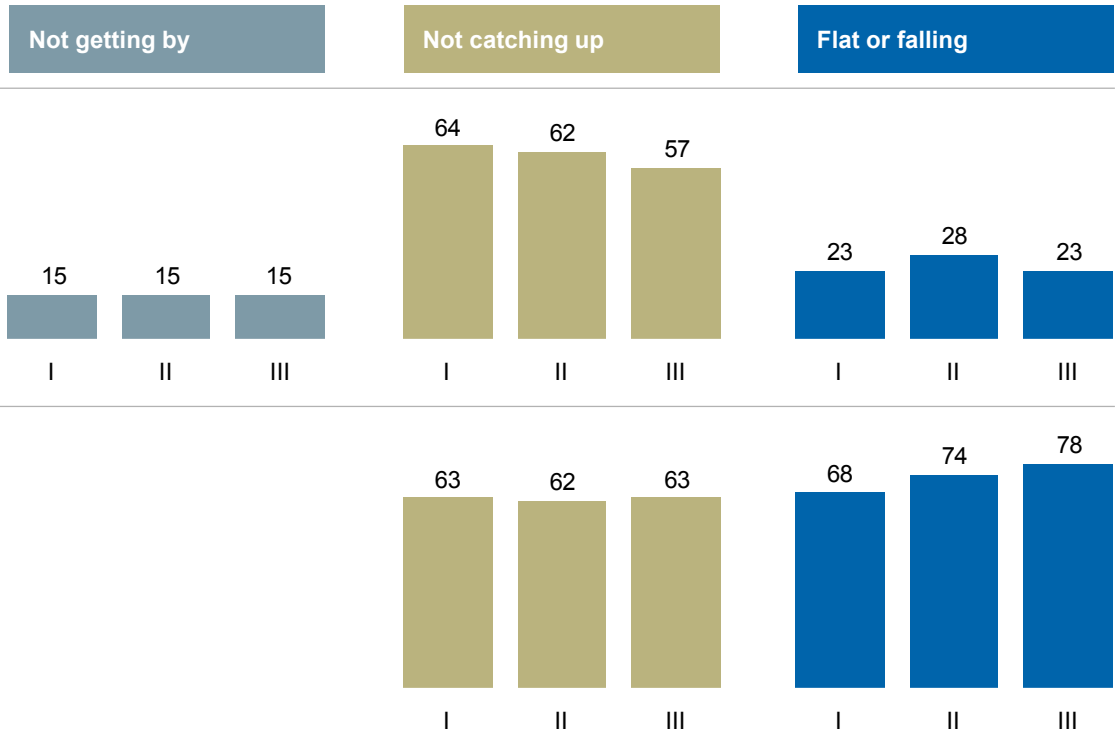
Exhibit A1

Our three scaling methodologies give similar outcomes

Average share of population affected between the two periods for three scaling methodologies, 2005–14
% of population

Our methodologies

I. Similar GDP growth rates and change in the net Gini coefficients
II. Similar GDP per capita and net Gini coefficients
III. Population-weighted average for the six countries



1 Market income data is not shown for the "not getting by" segment as countries do not typically measure pre-transfer poverty rates.

SOURCE: Frederick Solt, *The standardized world income inequality database*, working paper, SWIID version 5.0, October 2014; OECD; McKinsey Global Institute analysis

3. ESTIMATING THE FACTORS INFLUENCING DISPOSABLE INCOME FOR MEDIAN INCOME HOUSEHOLDS

We look at how key drivers influence disposable incomes using five main factors:

Aggregate demand factors due to changes in output per employed worker, employment, and labor-force participation

Demographic factors from changes in the number of working-age adults per household

Labor-market factors from changes in the share of productivity that goes to wages (the so-called wage share) and changes in the median household's share of total wages

Capital income factors, which can include capital gains from asset sales, interest and dividends from investments, rental income, income from business, or income received from pension plans.

Taxes and transfer factors, including a range of cash payments to beneficiaries such as social security payments, disability or workers' compensation, and unemployment benefits.

We calculate the output per worker by dividing the total output of each economy by the number of employed persons. The share of working-age people in the labor force is calculated by applying labor-force participation rates to population segments. The change in labor-force participation is related to demographics, labor-market policies, and personal preferences. For example, female labor-force participation is influenced by employment policies governing family leave, while participation of seniors is influenced by early retirement policies.

We calculate the number of working-age people per household based on the total population, the percentage of population that is working age, and the average size of a household in each country. We use demographic data about the average number of people per household in each country and estimate the share of working-age people per household by dividing the total working-age population by the total population within a country. To measure the change in working-age people per household, we look at two drivers: the change in the number of people per household and the change in the share of people that are of working age.

We estimate wage shares by dividing the total wages and salaries by the total output of the economy, based on national accounts. To ensure real wages are comparable with real GDP in estimating the wage share, we adjust for the difference between the GDP deflator (based on the price of a typical basket of output) and the consumer price index deflator (based on the price of a typical basket of consumption). To understand how the growth in total wages is spread across the distribution, we compare the change in average wages across all households in the country with the change in labor income estimated for the median household. Shifts in the median family's share of total wages are linked to economic factors and the supply of and demand for labor.

In most income groups, capital income is a very small component of total disposable income. In the United States, individuals who live in a home that they own are attributed theoretical rental income that falls in the capital gains category.

Net transfers include social security transfers, minus taxes paid. There are some small differences in definitions for these categories across countries. We use national definitions in each case. In the United States, we count in-kind transfers such as the Supplemental Nutrition Assistance Program (commonly known as food stamps) and Medicare and Medicaid benefits; such benefits are not included in transfers in the five other countries.

For taxes, we use different approaches for each country. In the Netherlands, we include income taxes (and wealth tax until 2001) and dividend taxes. In Sweden, we include federal, local, and municipal taxes such as property taxes. In the United Kingdom, we include all direct taxes but exclude indirect and intermediate taxes. In the United States, we use CBO data that include only federal taxes and are available until 2013. In our analysis extending this time period to 2014 using Current Employment Statistics data, we also include state and local taxes (which account for about 6 percent of market income for the middle quintile of households). In France, we include personal income taxes, housing taxes, and other social contributions. In Italy, we include all income taxes, municipal taxes (such as waste and water tax), and corporate income taxes.[182]

We calculate the changes in the five effects driving disposable income in two periods, 1993–2005 and 2005–14.[183] To account for the different lengths of the periods and make figures for the two periods comparable, we express all growth rates in our analysis and results in terms of seven-year growth.

4. METHODOLOGY FOR ESTIMATING SENSITIVITIES

To estimate potential scenarios for income growth in the next ten years, we use income distributions for three economies: France, Italy, and the United States. We estimate possible labor-market outcomes and market income in 2025 by matching supply of labor with demand within the economy. We "grow" transfers and capital incomes by estimated GDP growth rates to arrive at estimates of disposable incomes in 2025. We build three scenarios that reflect different trends in productivity and demand for labor: a low-growth case (reflecting continuation of trends in productivity and labor demand of the past decade), a high-growth case (reflecting a resumption of growth at the average rate of the three decades prior to 2005 and a continuation of the labor trends of the past decade), and a labor disruption case (reflecting a return to pre-2005 GDP growth, but with a sharp decline in labor demand as a result of accelerated technology adoption).

Data used for sensitivities

We estimate future income using national government microdata on income and sociodemographic variables for 20,000 individuals in 8,000 households in Italy, 128,000 individuals in 72,000 households in France, and 203,000 individuals in 75,000 households in the United States. For the United States, we use microdata from 2003 and 2013; for Italy and France, we use microdata from 2002 and 2012. To get national-level estimates, individuals and households in these data sets are assigned a weight to reflect the share of the total population and total households they represent for each country.

In addition to the microdata, we use national government data for population forecasts and data from national statistical agencies for total GDP in the past decades, as well as total population numbers. To adjust for inflation, we apply a constant deflator linked to the consumer price index for all income segments. In reality the consumption basket is different for each income segment and could warrant a different deflator.

Estimating labor-market outcomes and market incomes in 2025

We estimate labor-market outcomes in 2025 by matching supply for labor and demand for labor at the level of micro-segments. For each country, we use 2012 or 2013 data to group all labor-force participants in 20 to 50 micro-segments, which are defined by age, education,

[182] In Italy, we also account for evasion for each segment of the population based on average evasion rates published by the Bank of Italy in 2014 (M. Rosaria Marino and Roberta Zizza, "The personal income tax evasion in Italy: an estimate by taxpayer's type," Bank of Italy, 2014) assuming that evasion rates are even across households within a segment. Also, we assume constant evasion rates for the different periods.

[183] For countries where we use slightly different years for data on incomes, we also use these years to calculate the drivers of change in labor income.

and gender. Within each micro-segment, we also divide labor-force participants into those employed in interactive jobs (exchanges involving complex problem solving, experience, and context), transactional jobs (exchanges that can be scripted, routinized, or automated), or production jobs (the process of converting physical materials into finished goods), plus the unemployed.[184]

We start with the supply of labor-force participants at the level of micro-segments. We calculate the future supply of workers using national population forecasts for the three countries for age and gender categories. We extrapolate educational achievement trends of the past decade from our microdata to understand the total supply of working-age population in 2025 per educational achievement micro-segment. We extrapolate trends in labor-force participation rates of the past decade for micro-segments to create the size of 2025 micro-segments of labor-force participants. We use the same labor supply model for all scenarios.

The demand for labor depends on total GDP and the wage share of income in each economy. In the low-growth hypothesis, we assume that the trends of the past decade in productivity per labor-force participant will continue to define total GDP. In the two variants of the high-growth hypothesis, we assume that the trends in productivity growth of the three decades prior to 2005 will resume. To link demand in the economy to demand for labor, we use wage share of GDP at the economy-wide level—over the past decade in the low-growth and labor disruption analyses and over the three decades before 2005 in the high-growth analysis (2002 to 2012 for Italy and France and 2003 to 2013 for the United States). We split labor demand between growth in jobs and growth in wages, also based on the trends of the past decade. We split the total demand for jobs into three categories: interactive, transactional, and production jobs, based on trends in the past decade.

We then distribute the total demand for each type of job across the micro-segments of workers based on the trends observed in the past decade in jobs that involve interaction, transaction, or production.[185] To reflect variations across scenarios, we adjust the employment rates as well as labor incomes of those employed in each micro-segment according to the estimated changes in productivity and labor demand, split between job types, in our three scenarios.

Based on the results for each micro-segment, we convert the labor incomes for each individual in 2012 microdata to an estimated labor income in 2025. We also adjust the weights of the individuals in 2012 to reflect the changes in composition of the labor force by occupation and employment in 2025 (for example, if we assume unemployment will be higher in 2025, for instance in the labor disruption scenario, the weights of those who are unemployed in 2012 would be increased).

Estimating change in total disposable incomes in 2025

We start off by assuming, for each individual in our microdata, that income from capital and income from taxes and transfers grow at the same rate as GDP and add these results to the household labor incomes to calculate 2025 disposable incomes. As growth in GDP varies across scenarios, the sum of taxes and transfers also varies. In our labor disruption scenario, the wage shares of national incomes show a drastic decline.

Based on our 2025 microdata, we build the income distribution at the level of percentiles. We compare this with the income distribution in 2012-13 to analyze the growth of disposable income per percentile. Based on this growth, we calculate the share of population groups that would have flat or falling incomes.

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[184] *Help wanted: The future of work in advanced economies*, McKinsey Global Institute, March 2012.
[185] Ibid.

5. SURVEY DETAILS

We commissioned Research Now to carry out online consumer surveys in the United States and the United Kingdom in August 2015 and in France in September 2015. In each country, the surveys were answered by approximately 2,000 respondents, providing a representative sample of the population by income, age, and gender (as well as by region in France).
The survey contained three sets of questions: sociodemographic questions to classify respondents; questions regarding the respondents' past, current, and expected future economic situations; and questions regarding their perspectives on trade and immigration.

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